THE

# NATURALIST'S OWN BOOK:

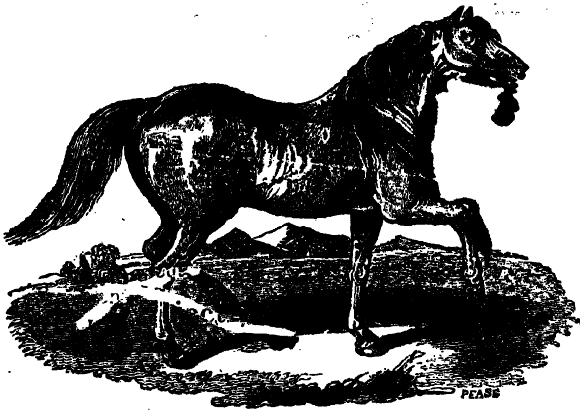
COMPRISING

DESCRIPTIONS AND AUTHENTIC ANECDOTES

OF

## QUADRUPEDS;

SCIENTIFICALLY ARRANGED ACCORDING TO THE SYSTEM OF CUVIER.




By the Author of the Young Man's Own Book.

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## PREFACE.

In the following work the plan has been pursued of combining systematic arrangement and nomenclature with popular description. So far as modern information has warranted, the biographical accounts have been stripped of all the marvellous fictions with which they are generally mixed up. Many of these had their origin in the elegant compositions of Buffon, who, when he was at a loss for authentic narrative, scrupled not to add, from his own fancy, what would fill up the gap.

The anecdotes by which the biographies are illustrated have been selected with a view to conveying the most genuine characteristics of the history, instincts, habits, and economy of the animal under consideration.

To Captain Thomas Brown, to a work entitled "Popular Zoology," and the "Gardens of the Zoological Society," and other sources, the editor acknowledges that he is greatly indebted in pursuing his pleasing task of description and compilation, and he trusts that he has produced a work which will receive the approbation of the public,

and which will be placed in the hands of youth for their instruction and amusement, as well as be extensively used in colleges and schools.

Should it succeed in gaining extended popularity, it will be followed up by other works on a similar plan, embracing the whole range of animated nature, down to the lowest scale of animal existence.

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# INTRODUCTION.

The arrangement adopted in the following pages is that of the celebrated Baron Cuvier, with the addition of some new genera from other zoologists.

Quadrupeds, according to that naturalist, form his first class, called *Mammalia*, or such animals as suckle their young. These he divides into orders, whose essential characters are founded on the construction of the feet or organs of touch, and the number and kinds of the teeth. On the perfection of the organs of touch the power of expertness depends; and from the dentition may be ascertained the nature of their food and digestive functions.

The organ of touch is more perfect in animals whose fingers are most numerously developed, and which are least covered at their tips,—such as those possessing only a single nail protecting their upper extremities, as in man: sensation in the toes of such as are covered with hoofs, on the contrary, is extremely blunted.

In the dentition given, and the generic characters, the method of Cuvier is followed. To those unacquainted with the elementary principles of natural history, it may be mentioned, that the arrangement of the figures is intended to represent the upper and under jaw. For example, in man, the incisory, or cutting teeth, are in the centre of each jaw, and are marked $\frac{4}{4}$ that is, four above

and four below; the canine, or sharp-pointed teeth, are next to these, and are marked $\frac{1\,1}{1\,1}$, that is, one on each side of the incisory teeth in both jaws; beyond these, and farther back in the mouth, are the grinders, or molars, marked $\frac{5\,5}{5\,5}$, that is, five on each side of the canine teeth in each jaw, making in man a total of thirty-two teeth. The chimpansé, an animal which stands at the head of the system, as approaching nearest to man, has a similar number and arrangement in his teeth.

The class Mammalia is divided into the following orders by Cuvier and Latreille:

I. Bimana; with two hands, of which man is the only species. He possesses the three kinds of teeth.

II. Quadrumana; or, animals with four hands, and possessing three kinds of teeth.

III. Cheiroptera. The general form of these animals is adapted for flight; with a fold of skin between their four limbs; with two pectoral teats; and with three kinds of teeth.

IV. Feræ. The four extremities are formed for walking; with three kinds of teeth; the teats vary in number.

V. Marsupialia. These vary in different genera. The young are produced prematurely, and brought to perfection in an abdominal pouch, which encloses the teats.

VI. Glires. These have two large incisory teeth in each jaw, separated from the grinders by a vacant space; they have no canine teeth; the grinders have flat crowns, or, if tuberculated, they are blunt; the hind limbs are longer than the fore ones, and furnished with nailed toes, and varying in different species; the teats are also variable.

VII. Edentata. The animals of this order have no incisory teeth in either jaw; some species have canine

teeth and grinders, and others grinders only. Some genera are destitute of teeth; they have feet with toes, variable in number, which are armed with strong nails.

VIII. Pachydermata. These have either three or two kinds of teeth; the toes are variable in number, and furnished with strong nails or hoofs; the organs of digestion are formed for ruminating.

IX. Ruminantia. The genera of this order have no incisory teeth in the upper jaw, and are usually furnished with eight in the lower one; there is a vacant space between the incisory teeth and the grinders. Some genera have one or two canine teeth; the grinders are twelve in each jaw; they have two toes, protected by hoofs; they have four stomachs; the males have always horns, as also the females in some species.

X. Cetacea. The bodies of the animals composing this order are shaped like those of fishes, terminated by an appendage nearly allied to the fin tail, which is cartilaginous and horizontal; the head is joined to the body by a very short, thick neck; they have two teats, which are either pectoral or abdominal.

In attentively surveying the information which has been accumulated regarding the habits of brutes, it will be found that they all possess what may be termed an *invariable* instinct, with peculiarities inherent in each species, by which they perform certain actions without having acquired a knowledge of these from observation or experience. But no one can read their biography, and anecdotes connected with their personal history, without coming to the conclusion, that animals have a language by which they communicate their ideas to each other; and, moreover, that they possess reflecting qualities, or reason, in the proper sense of the word. We can trace many instances of this in animals in unrestrained free-

dom; but it comes more within our observation in domesticated individuals. For example, a dog by experience can distinguish between the ordinary bells of the rooms of a house and that which is connected with the street door: he will quietly repose while the room bells are rung, but, if that of the street door is pulled, he will go to reconnoitre who is coming. This cannot result from instinct, but must proceed from observation and reflection.

Buffon and his followers have maintained, that the intelligence of animals can only be studied with advantage while they enjoy a state of entire independence in their native wilds, and that this state is the best suited for the exercise and development of their faculties. But this opinion is founded in error; and we have only to look at man himself for a confutation of so absurd a doctrine. It is true, that animals in a state of freedom, as Buffon has asserted, "obey nature only, and know no other laws but those of necessity or liberty;" but experience has taught us that such reasoning is fallacious. What can be more irrational than to admit that man has the power of teaching animals to exhibit faculties which are not inherent in them; and that they are susceptible of obeying desires which have not been imparted to them? or, that they are different from what they ought to be, according to the laws of the universe? or, that man is capable of changing their nature, and, consequently, of destroying the laws of creation?

If it were only in a state of freedom that we could study the capabilities of animals, we should find nearly as much difference in their habits in a wild, as in a captivated condition; for brutes no more enjoy absolute independence while at liberty than they do when domesticated; as they are all liable to the unavoidable influence

of the circumstances in the midst of which they are placed. These conditions are subjected to variety, but the nature of the animal is incapable of change. It is true, that an animal, roving in the mighty wilderness or boundless forest, will manifest different feelings from those of a thickly peopled region, and, still more so, if reduced to thraldom, or completely domesticated. But however different it may appear under these opposite influences, the animal will still be the same, possessing within itself its own individual means of accommodating its nature to its local condition.

If a herbivorous animal were placed in a state of entire independence, and removed from the attacks of its enemies, enjoying a fulness of food, the only energies which would manifest themselves, would be to satisfy its hunger, allay its thirst, and then fall asleep; in which state it would continue, till roused by hunger. This monotonous and indolent routine it will pursue from day to day, unbroken, except when periodically excited by the influence of love. A carnivorous animal, similarly placed, will act in the same manner,—with this distinction, that it will lie in wait for its prey, or take it by pursuit. This may occasion more fatigue to the creature; but then, it can indulge in a longer state of repose; for a meal of animal food is much slower of digestion than one of herbs. Here, then, the prudence and art of the animals will never have been called into action.

But let these be placed in a natural state, surrounded by fortuitous occurrences, and a different picture will present itself. They will require to exert more of their energies. Cunning, caution, and courage will have to be frequently brought into play; and still more will their knowing faculties and propensities be developed, when under the dominion of man. It is only since the estab-

lishment of extensive menageries that we have become better acquainted with the animal faculties, and have been able, in consequence, to wipe off the fictions which had their origin in hearsay accounts, acquired from ignorant savages.

From the exclusive observation of wild animals alone, one error has arisen and been kept up, which is, that herbivorous quadrupeds have a milder and more tractable disposition and more affectionate character, than those which live upon flesh. The gazelle became the emblem of beauty and gentleness. The same qualities were attributed to the hind, and other timid animals; while the tiger, the hyæna, and wolf, were celebrated for their untameable ferocity and sanguinary cruelty. Now, a more thorough knowledge of these animals obliges us to reverse the application of such ideas. The adult ruminating animals,—the males in particular, are found to be stubborn, untractable creatures, which no good treatment can soften, or render truly captive. They never manifest attachment even to those who feed them; and they are only held in subjection by intimidation. The case is very different with carnivorous animals. The reason is plain,—the former have a very coarse limited intellect, while the latter are no less remarkable for the extent and delicacy of theirs; and it has been found, that a tolerable development of destructiveness, is rather favourable than hurtful to their good feelings or benevolent affections. Thus much have we learned from animals in a subjugated state; and, except for this means of investigation, we should have long remained in ignorance of their true nature. The study of animals in a wild state, is attended with so many difficulties, that it is equivalent to an absolute impossibility.

To soften the manners of all animals, kind treatment,

and a sufficiency of food, seem to be the most powerful agents; and, besides abundance, palatable dainties are found strong incentives. Sugar is especially employed in circuses. Thus affection is secured by supplying wants. But, besides these, the pleasure of being caressed, has also a powerful influence. This seems natural to all creatures, and an enjoyment which is experienced by the wild animals of the desert. There was once a she-wolf in the menagerie of the *Jardin des Plantes*, on which the caresses of the hand, and the tender approbation of its keepers, produced such a powerful effect, that she seemed to experience an actual delirium; and her movements very strongly evinced her emotions. A Senegal jackal was affected in a similar manner; and a fox was so strongly agitated by caresses, that it became necessary to abstain from all expressions of kindness to him.

Fear of the human race is instinctive in all animals; remove this by caresses and dainties, and the creature will quickly become confident. Chastisement and constraint may sometimes be employed; but these must be cautiously resorted to. Excess of punishment either produces confirmed intimidation or hatred. A timid horse, chastised with severity, gets so entirely subdued by fright, that he would become blind to a gulf that is before him, and precipitate both himself and rider into it. A sporting dog, if severely beaten, is rendered undecided, wild, and fearful, and is no longer useful. When an undue chastisement is administered, it not unfrequently happens that wonted obedience is set aside, and resistance substituted for it. The instinctive faculty of self-preservation is awakened; and then the will manifests itself with all its native force and independence. The dog, the most obedient, patient, and intelligent of all animals, will frequently revolt under bad treatment, and return signal

vengeance on those who inflict the stripes. There are numerous instances on record of ample retaliation having been inflicted by domestic animals, particularly by horses, upon those who maltreated them; and they are known long to cherish hatred towards their persecutors.

It is quite evident, that scarcely any other means, but benefits conferred on animals, can induce in them regard for the human species, or beget obedience. As we are not of their species, it would be strange, indeed, if they had a natural affection for us. All the social animals live in herds; the individuals of the same community are known to each other; and they will live in harmony, so long as no incident occurs to disturb it; but this harmony only applies to the individuals of the same family; for, no sooner does a strange animal, even of their own species, make its appearance amongst them, than it is attacked, and driven from their haunts.




# THE NATURALIST'S OWN BOOK.

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## OF APES AND MONKEYS IN GENERAL.

Although the whole of this vast tribe bear a striking likeness to the human frame, and their grimace and actions much resemble the lords of creation; yet they are found to be far inferior in point of intellect to several other animals, as the dog, elephant, and horse. They possess, however, in an astonishing degree, the power of imitation, and the strongest desire to exercise it, for they seldom miss an opportunity of putting it in practice. This propensity not unfrequently proves fatal to them; for, in countries where they abound, the inhabitants make it the means of entrapping them. The ape-catchers take a vessel filled with water, and wash their hands and face, in a situation where they are sure to be observed by the apes. After having done so, the water is poured out, and its place supplied by a solution of glue; they leave the spot, and the apes then, prompted by curiosity, never fail to come down from their trees, and wash themselves in the same manner as they have seen

the men do before them. The consequence is, that they glue their eye-lashes so fast together, that they cannot open their eyes, or see to escape from their enemy.

The ape is also fond of spirituous liquors, and these are also used for the purpose of entrapping them. A person places, in their sight, a number of vessels filled with ardent spirits, pretends to drink, and retires. The apes, ever attentive to the proceedings of man, descend, and imitate what they have seen, become intoxicated, fall asleep, and are thus rendered an easy conquest to their cunning adversaries.

The Indians make this proneness to imitation useful; for, when they wish to collect cocoa-nuts, and other fruits, they go to the woods where these grow, which are generally frequented by apes and monkeys, gather a few heaps and withdraw. As soon as they are gone, the apes fall to work, imitate every thing they have seen done, and when they have gathered together a considerable number of heaps, the Indians approach, the apes fly to the trees, and the harvest is conveyed home.

Le Vaillant, who was an accurate observer of nature, says, "The ape, in fact, is an animal that never uses himself to discipline. He possesses such perfection of instinct, that he can render very important services to man, as mine (a dog-faced baboon which he had in Africa) did to me upon a variety of occasions. But even when he displays his inventive faculty, and renders himself useful, he has always only his own, not his master's interest at heart. Certainly no animal on earth is more ingenious and cunning than he; but when he is to be *obliged* to do any thing, he is quite stupid and awkward. It is only by often keeping him without food, and beating him, that he can be trained to certain acts; whereas it is impossible to break him of several of his natural faults.

He is lascivious, gluttonous, thievish, revengeful, passionate; and not a liar, the natives say, because he *will not* speak."

In the *General History of Travels*, we are told that persons who catch apes in Africa, by means of traps, are seldom successful but once in the same district; so soon do these animals become acquainted with the artifices employed against them. When they perceive an ape wounded, the community never fails to fly to his assistance. It has been said, that, if wounded by an arrow, they will not pull it out, and thereby lacerate the flesh, but bite off the shaft, to enable their unfortunate brother to escape with greater facility.

Apes, in general, live very peaceably together. In large and fertile solitudes, sometimes whole herds of them, of different species, chatter together, without any dispute or disorder arising, and without one species intermingling with another. But if any marauders intrude upon a district, of which another community is in possession, they combine to assert their rights.

Apes and monkeys, in many parts of India, are made objects of religious veneration, and magnificent temples are erected to their honour. In these countries they propagate to an alarming extent; they enter cities in immense troops, and even venture into the houses. In some places, however, as in the kingdom of Calicut, the natives find it necessary to have their windows latticed, to prevent the ingress of these intruders, who lay hands without scruple upon every eatable within their reach. There are three hospitals for monkeys in Amadabad, the capital of Guzerat, where the sick and lame are fed and relieved by medical attendants.

## Genus TROGLODYTES.—Geoffroy.

*Generic character.* Facial angle, 50 degrees; no cheek-pouches, tail, nor callosity on the hinder parts; arms short; superciliary ridges distinct. The canine teeth are somewhat projecting, and are close to the incisory and grinding teeth, like those of the human species; the head is rounded; and muzzle slightly projecting.



THE CHIMPANSE.

Troglodytes Niger.—Desmarest.

The chimpansé, both in face, form, and internal organization, approaches very nearly to the human species. There is a strong probability that this is the wild man of the woods mentioned by travellers. He differs from the orang-outang in wanting an intermaxiliary bone, and the last joint of his great toe is perfect. He also possesses the round ligament of the thigh bone; from which it is evident he is more fitted than the orang for assuming the upright position. His facial angle is only about 50 degrees, while that of the other species is 65 degrees.

Young specimens of this animal evince a considerable degree of melancholy, and are much more docile and submissive than those orangs whose habits naturalists have described.

The chimpansé seems entirely confined to the intertropical regions of Central Africa, and perhaps some of the islands in the same latitude. He appears to have been known to the ancients, from a description we have of large apes, found in an island on the western coast of Africa, by Hanno, a Carthaginian admiral, three hundred and thirty-six years previous to the Christian era. He says—"There were many more females than males, all equally covered with hair on all parts of the body. The interpreters called them *gorilbés*. On pursuing them, they could not succeed in taking a single male; they all escaped with astonishing swiftness, and threw stones at us: but we took three females, who defended themselves with so much violence that we were obliged to kill them; but we brought their skins, stuffed with straw, to Carthage."*

## *Working Apes.*

We are told by Francois Pyard, that, in the neighbourhood of Sierra Leone, on the coast of Africa, apes are to be found of a robust structure of body, which walk upright, are strong and active, and are sometimes trained to perform menial offices. They have been taught to pound substances in a mortar, and fetch water from the river in jugs. But unless these are immediately taken from them on their arrival at the door, they let them fall; and, when they see them lying broken in pieces, they utter a lamentable kind of cry.

* *Hannonis Periplus*, translated by V. Berkel.

Schouten's account of certain apes which he saw, so far agrees with that of Pyard; for he says he has seen them trained to various kinds of labour; namely, to rinse out glasses, carry liquor about to a company at table, and turn a spit, &c. It seems extremely probable that these are the young chimpansé.

### *Proofs of Intelligence.*

Speaking of the chimpansé of Africa, M. De Grandpré says,*—"His sagacity is extraordinary; he generally walks upon two legs, supporting himself with a stick. The negro fears him, and not without reason, as he sometimes treats him very roughly." M. de Grandpré saw, on board of a vessel, a female chimpansé, which exhibited wonderful proofs of intelligence. She had learnt to heat the oven; she took great care not to let any of the coals fall out, which might have done mischief in the ship; and she was very accurate in observing when the oven was heated to the proper degree, of which she immediately apprised the baker, who, relying with perfect confidence upon her information, carried his dough to the oven as soon as the chimpansé came to fetch him. This animal performed all the business of a sailor, spliced ropes, handled the sails, and assisted at unfurling them, and she was, in fact, considered by the sailors as one of themselves. The vessel was bound for America; but the poor animal did not live to see that country, having fallen a victim to the brutality of the first mate, who inflicted very cruel chastisement upon her, which she had not deserved. She endured it with the greatest patience, only holding out her hands in a suppliant attitude, in order to break the force of the blows she re-

* Voyage to the Coast of Africa.

ceived. But from that moment she steadily refused to take any food, and died on the fifth day from grief and hunger. She was lamented by every person on board, not insensible to the feelings of humanity, who knew the circumstances of her fate.



## GENUS PITHECUS.—CUVIER.

*Generic Character.* Incisory teeth $\frac{4}{4}$, canines $\frac{1\,1}{1\,1}$, molars $\frac{5\,5}{5\,5}$, total 32. The canine teeth are somewhat larger than the others; the molars more equal than in man, with the tubercles more produced; the head orbicular, without a superciliary ridge. While young, facial angle 50 deg. to 60 deg.; no cheek pouches; ears rounded, as in the human species; arms much longer than in man; thumbs rather short; tailless; some of the species with callosities on the hinder parts.



THE ORANG-OUTANG.

PITHECUS SATYRUS.—Geoffroy.

The orang-outang is an inhabitant of Cochin-China, Borneo, Malacca, Sumatra, and several of the larger islands of the Indian Archipelago. He is next in order

to the chimpansé in his resemblance, in external conformation, to the human species, and is endowed with considerable intelligence. He lives in remote situations, avoiding man, and is, consequently, rarely seen in a full grown state. He is of gigantic stature, measuring from seven and a half to eight feet.

Much confusion has existed regarding this species, as it has been confounded in its immature state with the chimpansé, and other larger apes. We have had many vague accounts and fables concerning it. All that have hitherto reached Europe, have been young ones; and probably the change of climate has checked their growth; for these animals are found only under a tropical sun, and their geographical range is excessively limited. It was not till the description of the animal, by Dr. Clarke Abel, in May, 1825, that we had any satisfactory account of the great wild man of the woods. This species appears to approach very near to the human form, and far exceeds man in size. Dr. Abel's interesting account of the orang-outang is as follows:—

"My attention was first directed to this orang-outang, by the following notice of the animal in the Hurkara newspaper, which was sent to it, as I have ascertained, from one of the persons actually concerned in his capture:—'A party having landed on the north coast of Sumatra, from the Mary Anne Sophia, Captain Cornfoot, for the purpose of watering, fell in with an animal of the monkey species, of a most gigantic size. It was upwards of seven feet in height; and, after receiving seven shots, was killed. After the fifth shot, it climbed a tree, and reclined against its boughs, to all appearance in great pain, and vomited a considerable quantity of blood. Some of the teeth are about three inches long. The lower jaw is immense; and the skin of its arms,

although cut off from the wrist, was considerably longer than the length of a man's arm about six feet high. The back is remarkably broad, and is covered with long, coarse, brown hair. Its gait was slovenly; and as it went, it waddled from side to side. In addition to the foregoing information, I may mention, that I have conversed with Captain Cornfoot, commander of the Mary Anne Sophia, and received from him a verbal description of the animal, which, in most respects, corresponds with others that have been published. His statement regarding the height of the animal is, that it was a full head taller than any man on board, measuring seven feet in what would be its ordinary standing posture, and eight feet when it was suspended, for the purpose of being skinned. Captain Cornfoot dwells much upon the human-like expression of its countenance, and especially on the beautiful arrangement of its beard. He also obliged me with some account of its capture, as reported to him by his officers, and feelingly described the piteous action of the animal on being wounded, and its apparent tenacity of life. It seems, that on the spot where this animal was killed, were five or six trees, which occasioned his hunters great trouble in procuring their prey; for, in consequence of the extreme agility and power of the animal, in springing from branch to branch, and bounding from one tree to another, his pursuers could not fix their aim, until they had cut down all the trees but one. When thus limited in his range, the orang-outang was shot, but did not die till he had received five balls, and the thrust of a spear. One of the five balls probably penetrated his lungs, as he, immediately after the infliction of the wound, slung himself by his feet from a branch, with his head downwards, and allowed the blood to flow from his mouth. On receiving a wound, he always put his hand

over the injured part, and distressed his pursuers by the human-like agony of his expression. When on the ground, after being exhausted by his many wounds, he lay as if dead, with his head resting on his folded arms. It was at this moment that an officer attempted to give the *coup de grâce*, by pushing a spear through his body; but he immediately jumped on his feet, wrested the weapon from his antagonist, and shivered it in pieces. This was his last wound, and last great exertion; yet he lived some time afterwards, and drank, it is stated, great quantities of water. Captain Cornfoot also observed, that the animal had probably travelled some distance from the place where he was killed, as his legs were coered with mud up to the knees.

"The face of the animal, with the exception of the beard, is nearly bare, a few straggling short downy hairs being alone scattered over it. It is of a dark lead colour, excepting the margins of the lips, which are lighter. The eyes are small, in relation to those of man, and are about an inch apart. The eyelids are well fringed with lashes. The ears are an inch and a half in length, and barely an inch in breadth, are close to the head, and resemble those of man, with the exception of wanting the lower lobe. The nose is scarcely raised above the level of the face, and is chiefly distinguished by two nostrils, three-fourths of an inch in breadth, placed obliquely side by side. The muzzle projects in a mammillary form. The opening of the mouth is very large. When closed, the lips appear narrow, but are, in reality, half an inch in thickness. The hair of the head is of a reddish brown, grows from behind forwards, and is five inches in length. The beard is handsome, and appears to have been curly in the animal's lifetime. Its colour is lighter than that of the head, approaching to a light chestnut. The hair is about three

inches long, springing very gracefully from the upper lip, near the angles of the mouth, in the form of mustachios, whence descending, it mixes with that of the chin, the whole having at present a very hairy aspect. The face of the animal is much wrinkled.

"The palms of the hands are very long, are quite naked from the wrists, and are of the colour of the face. The backs of the hands, to the last joint of the fingers, are covered with hair, which inclines backwards towards the wrists, and then turns directly upwards. All the fingers have nails, which are strong, convex, and of a black colour. The thumb reaches to the first joint of the fore-finger.

"The soles of the feet are bare, and of the same colour as the hands; they are covered on the back with long brown hair, to the last joint of the toes. The great toe is set on nearly at right angles to the foot, and is relatively very short. The original colour, however, of the hands and arms, and the soles of the feet, is somewhat uncertain, in consequence of the effect of the spirit.

"The skin itself is of a leaden colour. The hair is of a brownish red; but, when observed at some distance, has a dull, and, in some places, an almost black appearance; but, in a strong light, it is of a light red. It is in all parts very long; on the fore arm, its general direction is downwards; but, from its length, it hangs shaggy below the arm. From the shoulders, it hangs in large and long massy tufts, which, in continuation with the long hair on the back, seems to form a continuous mass to the very centre of the body. About the flanks, the hair is equally long; and in the living animal, must have descended below the thighs and nates. On the limits, however, of the lateral termination of the skin which must have covered the chest and belly, it is scanty, and gives the

impression that these parts must have been comparatively bare. Round the upper part of the back, it is also much thinner than elsewhere, and small tufts at the junction of the skin with the neck, are curled abruptly upwards, corresponding with the direction of the hair at the back of the head. It measures, from one extremity of the arm to another, five feet eight inches; to this is to be added, fifteen inches on each side, for the hands and wrists, which will render the whole span of the animal equal to eight feet two inches."

The orang which was in Holland in 1776 most commonly walked on all fours, like other apes; but she could also walk erect. When, however, she assumed this posture, her feet were not usually extended like those of a man, but the toes were curved beneath, in such a manner that she rested chiefly on the exterior sides of the feet.

One morning she escaped from her chain, and was seen to ascend with wonderful agility the beams and oblique rafters of the building. With some trouble she was retaken, and very extraordinary muscular powers were on this occasion remarked in the animal. The efforts of four men were found necessary in order to secure her. Two of them seized her by the legs, and a third by the head, whilst the other fastened the collar round her body. During the time she was at liberty, among other pranks, she had taken a bottle of Malaga wine, which she drank to the last drop, and then set the bottle again in its place.

She ate readily of any kind of food which was presented to her; but her chief sustenance was bread, roots, and fruit. She was particularly fond of carrots, strawberries, aromatic plants, and roots of parsley. She also ate meat, boiled and roasted, as well as fish, and was fond of eggs, the shell of which she broke with her teeth, and

then emptied by sucking out the contents. If strawberries were presented to her on a plate, she would pick them up, one by one, with a fork, and put them into her mouth, holding, at the same time, the plate in the other hand. Her usual drink was water; but she also would drink very eagerly all sorts of wine, and of Malaga in particular she was very fond. Whilst she was on shipboard, she ran freely about the vessel, played with the sailors, and would go like them into the kitchen for her mess. When, at the approach of night, she was about to lie down, she would prepare the bed on which she slept by shaking well the hay, and putting it in proper order; and, lastly, would cover herself up snugly in the quilt.* One day, on noticing the padlock of her chain opened with a key, and shut again, she seized a little bit of stick, and putting it into the keyhole, turned it about in all directions, endeavouring to open it.

When this animal first arrived in Holland, she was only two feet and a half high, and was almost entirely free from hair on any part of her body, except her back and arms; but, on the approach of winter, she became thickly covered all over, and the hair on her back was at least six inches long, of a chestnut colour, except the face and paws, which were somewhat of a reddish bronze colour. This interesting brute died, after having been seven months in Holland.

Buffon, who saw and described this individual, says he has seen it give its hand to show the company to the door: it would sit at table, unfold its napkin, wipe its lips, make use of the spoon and fork to convey the vic-

* The same thing is mentioned by M. Le Guat. When he was at Java, he saw one make her bed very neatly every day, lie upon her side, and cover herself with the clothes. She often bound up her head with a handkerchief, and lay in bed in that state.

tuals to its mouth, pour out its drink into a glass, touch glasses when invited, take a cup and saucer and lay them on the table, put in sugar, pour out its tea, leave it to cool before drinking; and all this without any other instigation than the signs or commands of its master, and often of its own accord.

Dr. Abel says the orang-outang does not practise the grimaces nor uncouth antics of other apes, and is, besides, less given to mischief. Gravity and mildness are usually depicted in his countenance.

### *Oyster Opening.*

Gemelli Carreri, in his voyage round the world, relates a circumstance concerning the orang-outang, in its wild state, which is indicative of very considerable powers, both of reflection and invention. When the fruits on the mountains are exhausted, they will frequently descend to the sea-coast, where they feed on various species of shell-fish, but, in particular, on a large sort of oyster, which commonly lies open on the shore. "Fearful," he says, "of putting in their paws, lest the oyster should close and crush them, they insert a stone as a wedge within the shell; this prevents it from shutting, and they then drag out their prey, and devour it at their leisure." Milo of old might have saved his life, had he been only half as wise.

### *Display of Sociability.*

A female orang-outang was brought alive into Holland from the island of Borneo, in the year 1776, and lodged in the menagerie of the Prince of Orange. She was extremely gentle, and exhibited no symptoms whatever of fierceness or malignity. She had a somewhat melancholy appearance, yet loved to be in company, and particularly

with those persons to whose care she was committed. Oftentimes, when they retired, she would throw herself on the ground, as if in despair, uttering the most doleful cries, and tearing in pieces any article of linen that happened to be within her reach. Her keeper having sometimes sat near her on the ground, she would frequently take the hay off her bed, arrange it by her side, and, with the greatest anxiety and affection, invite him to sit down.

### *A modest Orang.*

M. Palavicini, who held an official situation at Batavia, in the year 1759, had in his house two orang-outangs, a male and female, which were extremely mild and gentle. They were nearly of human stature, and imitated very closely the actions of men, particularly with their hands and arms. In some respects, they had a degree of bashfulness and modesty, which is not observable in savage tribes of the human race. If, for instance, the female was attentively looked at by any person, she would throw herself into the arms of the male, and hide her face in his bosom.

### *An Orang phlebotomized.*

M. de la Bosse purchased of a negro two orang-outangs, male and female, that were only about a year old. "We had," says he, "these animals with us on shipboard. They ate at the same table with us. When they wanted any thing, they, by certain signs, acquainted the cabin boy with their wishes; and, if he did not bring it, they sometimes flew into a rage at him, bit him in the arm, and not unfrequently threw him down. The male fell sick during the voyage, and submitted to be treated like a human patient. The disease being of an inflammatory nature, the surgeon bled him twice in the right arm;

and when he afterwards felt himself indisposed, he used to hold out his arm to be bled, because he recollected that he found himself benefited by that operation on a former occasion.

## THE GIBBON.

### Pithecus Lar.

The gibbon is distinguished by the great length of its arms, which reach to the ground, when the animal is standing upright. Its face is flat, tawny, and greatly resembling that of man, surrounded by a circle of gray hairs, which increases the singularity of its aspect. Its eyes are large and deep sunk, ears round and naked, much like those of the human race. The body is covered all over, except the hinder parts, with black rough hair. It has no tail.

The gibbon is of a mild and tractable disposition, and feeds on fruits, leaves, and the bark of certain trees. It is a native of the East Indies, and common in Sumatra, Molluccas, and the coast of Coromandel. It varies in size, from three to four feet in height.

The following anecdote, in all probability, applies to this species, as the gibbon, in great numbers, inhabits the districts where it happened.

### *United Retaliation.*

The famous Tavernier tells us, that, returning from Agra with the English president to Surat, they passed within four or five leagues of Amenabad, through a little forest of mangoes. "We saw here," says he, "a vast number of very large apes, male and female, many of the latter having their young in their arms. We were each of us in our coaches; and the English president stopt

his, to tell me that he had a very fine new gun; and knowing that I was a good marksman, desired me to try it, by shooting one of the apes. One of my servants, who was a native of the country, made a sign to me not to do it; and I did all that was in my power to dissuade the gentleman from his design, but to no purpose; for he immediately levelled his piece, and shot a she ape, who fell through the branches of the tree on which she was sitting, her young ones tumbling at the same time out of her arms upon the ground. We presently saw that happen, which my servant apprehended; for all the apes, to the number of sixty, came immediately down from the trees, and attacked the president's coach with such fury, that they must infallibly have destroyed him, if all who were present had not flown to his relief, and by drawing up the windows, and posting all the servants about the coach, protected him from their resentment. I must confess, I was not a little afraid, though they did not offer to meddle with me, because they were very large, and of incredible strength; and their fury was so great, that they pursued the president's coach for nearly three leagues."



## Genus COLOBUS.—Geoffroy.

*Generic character.* Incisory teeth $\frac{4}{4}$; canines $\frac{1\ 1}{1\ 1}$; grinders $\frac{5\ 5}{5\ 5}$. Facial angle from 40 to 45 degrees; muzzle short; face naked; nostrils inclining towards each other, with distinct cheek pouches; no thumbs on the hands; feet with five fingers, the thumb much separated from the others, increasing in length from the first to the third; tail long and slender, with a tuft at its extremity; callosities on the hinder parts; body and legs generally slender.

### THE FULL-BOTTOM MONKEY.

COLOBUS POLYCOMOS.—Geoffroy.

This monkey has a short, black and naked face; the head small, which, with the shoulders, are covered with long, coarse, flowing hairs, like a full-bottomed periwig, of a dirty yellowish colour, mixed with black; body, arms and limbs, of a glossy black; the hands are naked, and with only four fingers; on each foot are five very long toes; the tail is also long, of a snowy whiteness, and an oblong tuft at its point, covered with very long hairs; the body and legs are unusually slender for the size of the animal. The full-bottom monkey is about three feet in height. He is an inhabitant of Sierra Leone, and presents as grotesque an appearance as any of his tribe.



## GENUS SEMNOPITHECUS.—CUVIER.

*Generic character.* Facial angle 45 degrees; the head round; the nose flat; the ears moderately large, with cheek pouches; tubercles very long; the thumbs on the hands very short, and remote from the fingers; with callosities on the hinder parts.

### THE ENTELLUS MONKEY.

SEMNOPITHECUS ENTELLUS.—Geoffroy.

It is only of late that this species of monkey has been brought before the notice of naturalists, which is somewhat remarkable, as it is one of the most common of all the quadrumana, and very numerous in Bengal. The

proportion of its limbs, and its intellectual faculties, are peculiar; the former are particularly long, and remarkably slender; its motions are tardy; and it has an apathetic expression of countenance, which no circumstances can alter. It possesses characters nearly allied to those of the gibbon; but the extreme length of its tail removes it from that genus.

The entellus is distinguished by its black face, hands and feet; the general colour is of an ash gray, darkening as it approaches the tail, which is grayish brown, of an equal thickness, and terminates in some scattered hairs at the point. The under parts are of a dingy yellowish white. The face is surmounted, above the eyebrows, by a line of long, stiff, black hairs. The cheeks and chin are margined by a beard of grayish white. It is upwards of two feet from the nose to the tail; and the tail itself, which it generally keeps curled, measures about three feet.

This animal was named by its first describer, M. Dufresne, of the Jardin des Plantes, Paris, from a fancied resemblance to an old man.

It is deserving our observation, as it possesses characters very dissimilar from all other species, and forms the type of a new genus. It is not merely distinct, from the colouring of its parts, or the dimensions of its organs, but also essentially different in its physiognomy.

The entellus inhabits the Peninsula of Hindostan, and the immense group of islands of the Indian Archipelago. It is held in high veneration by the superstitious Hindoos; and whatever ravages they commit, the natives dare not destroy them, but only endeavour to scare them by their cries. The animals thus emboldened, from meeting with no opposition, assemble in vast troops, and possess themselves of the produce of whatever fields they fix upon.

## Genus CERCOPITHECUS.—Cuvier.

*Generic character.* With 32 teeth; canine teeth somewhat projecting, with intermediate spaces for their reception in each jaw. The head is rounded, and the facial angle from 45 to 50 degrees; ears generally rounded, although they are somewhat angular, in some species: they have cheek-pouches, and a tail at least the length of their body.

### THE COCHIN-CHINA MONKEY.

Cercopithecus Næmeus.—Desmarest.

The Cochin-China monkey is a large species, measuring upwards of two feet, from the nose to the tail. The face is flattish, and of a yellowish bay colour, as are also the ears; across the forehead there is a narrow band. The sides of the face are bounded by long, spreading yellowish white hairs; surrounding the neck is a collar of reddish, or purple coloured brown; the upper parts of the arms and thighs are black; and the legs and knees of a bright chestnut colour. The back, upper parts of the body, and sides, are of a yellowish gray; the lower part of the arms and tail are white, and the feet dusky.

This curious monkey is a native of Cochin-China and Madagascar. It is said, that a bezoar is more frequently found in its stomach than in that of almost any other species. This monkey is nearly the size of the Barbary ape, and measures, standing in an upright posture, from three feet and a half to four feet.

### THE PROBOSCIS MONKEY.

CERCOPITHECUS NASICUS.—Desmarest.

There is, perhaps, not a more remarkable animal than the proboscis monkey among the whole of this numerous tribe. Its aspect is truly singular, the nose being of such a length and form as to present, especially when viewed in profile, an appearance the most grotesque imaginable; indeed, from the figure alone, one would be inclined to think it was intended by nature as a caricature of a monkey. The form of the nose itself is most singular, being divided almost into two lobes at the tip, a longitudinal furrow running along the middle.



## GENUS MACACUS.—LACEPEDE.

*Generic character.* Teeth, same as in all others of the ape tribe, thirty-two in number; canines, very strong; facial angle, 40 to 45 degrees; superciliary and occipital ridges, very distinct; tail, very short, or only a small tubercle; cheek-pouches and callosities, distinct; ears, angular; the general aspect of the face is like that of a dog. He usually stands between three and four feet in height; the colour of the back is greenish brown, and of the belly, pale yellow. This ape walks oftener on four feet than on two.

### THE BARBARY APE.

MACACUS INNUS.—Lacepede.

The Barbary ape is very generally diffused throughout Africa, Arabia, India, and Peru; some are to be found on

the rock of Gibraltar, to which place they were introduced from the opposite coast. They are so common in Barbary, that they may, in almost all wooded situations, be seen in hundreds. They are extremely wicked and mischievous; and, in India, often commit robberies on the peasantry going and returning to market: they assemble in vast numbers, and deprive them of their provisions. The principal food of this species is vegetables and fruit.



THE BLACK APE.

CYNOCEPHALUS NIGER.

There is another tailless animal which we would introduce in this place. It is the *Cynocephalus niger* of Cuvier; while the modern British zoologists place it in company with the Barbary ape and the *Rhæsus* monkey. The general resemblance and physiognomy ally it to the dog-faced baboons, which is strengthened by the swelled cheeks and flat nose; but the position of the nostrils, with habits characteristic of the *Macaci*, and the total want of any tail, join it with the preceding. Four specimens only seem yet to be known; one in the Royal Museum in Paris; another in the Tower of London, described by Mr. Grey in his Spicelogia Zoologica; another more

lately exhibited in Exeter Change, and the fourth in the London Zoological Gardens, which is thus described by Mr. Bennet:—

"Our animal is of a deep jet black in all its parts, with the exception of its large callosities, which are flesh-coloured. The body is covered with long woolly hair, becoming shorter on the limbs; its ears are small; its tail a mere tubercle, less than an inch in length; and its cheek-pouches seem to be capable of much distension. Its face is broad, rather prominent, slightly narrowing at the muzzle, and abruptly truncate, with the nostrils placed very obliquely on the upper surface. On the top of the head it has a broad tuft of long hairs, falling backwards, and forming a very remarkable crest. The expression of its physiognomy is peculiarly cunning. It seems to be rather violent in its temper, and tyrannizes not a little over the quiet gray gibbon, which is at present confined in the same cage."

The native country of this monkey is yet somewhat uncertain; but the best authorities record it as the islands of the Indian Archipelago.

*Audacious Robbers.*

A striking instance of the audacity of the ape in attacking the human species, is related by M. Mollien, in his *Travels in Africa.* A woman going with millet and milk to a vessel, from St. Louis, which had been stopped before a village in the country of Golam, was attacked by a troop of apes, from three to four feet high: they first threw stones at her, on which she began to run away; they then ran after her, and, having caught her, they commenced beating her with sticks, until she let go what she was carrying. On returning to the village, she related her adventure to the principal inhabitants, who mounted

their horses, and, followed by their dogs, went to the place which served as a retreat to this troop of apes. They fired at them, killed ten, and wounded others, which were brought to them by the dogs; but several negroes were severely wounded in this encounter, either by the stones hurled at them by the apes, or by their bites; the females especially were most furious in revenging the death of their young ones, which they carried in their arms.

### *Familiar Apes.*

D'Obsonville, speaking of the sacred haunts of apes in different parts of India, says, that in the course of his travels through that country, he occasionally went into the ancient temples, in order to rest himself. He noticed always that several of the apes, which abounded there, first observed him attentively, then looked inquisitively at the food which he was about to take, betraying, by their features and gestures, the great desire which they felt to partake of it with him.

In order to amuse himself upon such occasions, he was generally provided with a quantity of dried pease: of these he first scattered some on the side where the leader stood (for, according to his account, the baboons always obey some particular one as their leader,) upon which the animal gradually approached nearer, and gathered them eagerly up. He then held out a handful to the animal; and, as they seldom see any person who harbours hostile intentions against them, the baboon ventured slowly to approach, cautiously watching, as it seemed, lest any trick might be played him. At length, becoming bolder, he laid hold, with one of his paws, of the thumb of the hand in which the pease were held out to him, while, with the other, he carried them to his mouth,

keeping his eyes all the while fixed upon those of M. d'Obsonville. "If I happened to laugh," he observes, "or to move myself, he immediately gave over eating, worked his lips, and made a kind of growling noise, the meaning of which was rendered very intelligible to me by his long canine teeth, which he occasionally exhibited. If I threw some of the pease to a distance from him, he sometimes seemed pleased to see other apes pick them up; though at other times, he grumbled at it, and attacked those who approached too near to me. The noise which he made, and the apprehensions he showed, though they might, perhaps, proceed, in some measure, from his own greediness, evidently proved, however, that he feared I might take advantage of their weakness, and so make them prisoners. I also observed, that those whom he suffered to approach the nearest to me, were always the largest and strongest of the males; the young and the females he always obliged to keep at a considerable distance from me."

## BROWN BABOON.

### Macacus Nemestrinus.—Cuvier.

This animal has been, by some authors, called the pig-tailed baboon, of which tribe it is the smallest. It is of a mild, tractable, and gentle disposition; and, though lively and frolicsome, is void of the petulance and mischief so characteristic of other baboons.

The muzzle of the brown baboon is large and thick; its face and ears naked, and of a flesh colour; the hair on the head and back, of a deep olive, growing paler on the belly. Its eyes are hazel; it has cheek-pouches, and red coloured callosities on its hinder parts. It is a native of Sumatra and Japan.

## Genus CYNOCEPHALUS.—Cuvier.

*Generic character.* With thirty-two teeth, as in the rest of the tribe; the canine teeth very large; head elongated; muzzle much produced, like that of a dog; facial angle from 30 to 35 degrees; face considerably wrinkled, and striated longitudinally; the superciliary, sagittal, and occipital ridges, strikingly developed. It has cheek-pouches.

Baboons are animals of great muscular strength, and grow to considerable size; they are of a fierce and pugnacious disposition, much given to plunder, and fight desperately among themselves.

### THE BABOON.

Cynocephalus Papio.—Desmarest.

The common baboon is an inhabitant of the hottest parts of Africa, grows to three, and even four feet in height, and is particularly muscular in his chest and shoulders, possessing great strength; he is exceedingly ferocious, and, when confined in a cage, will frequently shake the bars with such fury, as to strike terror into the spectators. Neither art nor caresses can make him docile and obedient, and he seems as if continually fretting with rage. In a state of captivity, he must be kept closely confined. The general colour of the baboon is grayish brown; the face is of a tawny flesh colour, with a large tuft of hair on each side, extending half way down the muzzle, and surmounted by a large bunch at top, which has altogether much the form of a toupet, giving the animal a very grotesque appearance.

This species is very numerous in Siam, where they

frequently sally forth in astonishing multitudes to attack the villages, during the time the peasants are occupied in the rice harvest, and plunder their habitations of whatever provisions they can lay their paws on. Fruits, corn and roots, are their usual food, although they will also eat flesh.

When hunted, the baboon often makes very formidable resistance to dogs; their great strength and long claws enabling them to make a stout defence; and it is with difficulty a single dog can overcome them, except when they are gorged with excessive eating, in which they always indulge when they can.

### *False Alarm.*

Some years ago, Mr. Rutter, doing duty at the castle of Cape town, kept a tame baboon for his amusement. One evening it broke its chain unknown to him. In the night, climbing up into the belfry, it began to play with, and ring the bell. Immediately the whole place was in an uproar, some great danger being apprehended. Many thought that the castle was on fire; others, that an enemy had entered the bay, and the soldiers began actually to turn out, when it was discovered that the baboon had occasioned the disturbance. On the following morning, a court-martial was summoned, when Cape justice dictated, that, whereas Master Rutter's baboon had unnecessarily put the castle into alarm, the master should receive fifty lashes; Mr. Rutter, however, found means to evade the punishment.

### *Propensity for Imitation.*

The following circumstance is truly characteristic of the imitative powers of the baboon:—The army of Alexander the Great marched in complete battle array into a

country inhabited by great numbers of baboons, and encamped there for the night. The next morning, when the army was about to proceed on its march, the soldiers saw, at some distance, an enormous number of baboons, drawn up in rank and file, like a small army, with such regularity, that the Macedonians, who could have no idea of such a manœuvre, imagined, at first, that it was the enemy drawn up to receive them.



THE MANDRILL; OR, RIBBED NOSE BABOON.

CYNOCEPHALUS MARMON.—Cuvier.

The marmon usually measures five feet when full grown. The head is very large, in proportion to the size of the body; the face naked, and the cheeks are of a clear violet blue colour, with various oblique furrows. The whole nose is of a bright scarlet, having more the appearance of being an artificial, than a natural production. The eyes are extremely small, but acute and sparkling; the irides are of a fine hazel colour. The hair on the sides of the head is long, mostly growing upwards, and terminating on the crown in an acute pointed form. The beard is long, erect, and of a yellowish hue. The whole body is covered with stiff, bristly like hairs, each of which is annulated with black and yellow; and the

general colour appears of a greenish cast. The canine teeth are remarkable for their great length and strength.

It is scarcely possible to suppose a more disgusting looking creature than this. He is of a fierce and savage nature; and, even in the highest state of domestication, is not to be depended on, from his naturally treacherous disposition. He is an animal of very great strength, more especially in his chest and arms, which are extremely muscular.

When young, the mandrill has sometimes been known to evince attachment to man, and to exhibit feelings of tenderness to those with whom he is acquainted; but when he approaches the adult state, all these forsake him, and he becomes fretful, capricious, and wicked. When irritated, he manifests a horrid fierceness, and utters a hideous cry, which has somewhat the sound of the lion's roar, but more approaching a grunt. He inhabits the Gold Coast, and various districts of Africa. He lives on fruits and roots; and, in a domesticated state, eats bread freely. A fine specimen of this animal, in the menagerie of Mr. Wombwell, although tolerably tame, was not to be trusted. On one occasion, when Mr. Wombwell was showing the consistence of the callosity on his nose, I happened to put my face, says Captain Brown, too near the bars of his cage, when he forced his hands suddenly through them, and had nearly deprived me of one of my eyes. This animal was fond of carrots, fruits, potatoes, and bread; and was very partial to nuts, which he cracked. He liked fermented liquors, and ginger beer was a favourite beverage with him.

## THE DOG-FACED BABOON.

CYNOCEPHALUS HAMADRYAS.—Desmarest.

Immense troops of these animals inhabit the mountains, in the neighbourhood of the Cape of Good Hope, from whence they descend to the plains to devastate the gardens and orchards. In their plundering excursions, they are very cunning, always placing sentinels, to prevent the main body from being surprised. They break the fruit to pieces, cram it into their cheek-pouches, and keep it until hungry. Whenever the sentinel discovers a man approaching, he sets up a loud yell, which makes the whole troop retreat with the utmost precipitation.

They have been known to steal behind an unwary traveller resting near their retreats, and carry off his food, which they would eat at a little distance from him; and, with absurd grimaces and gestures, in ridicule, offer it back; at the same time, greedily devouring it.

### *Sudden Effect of Fear.*

The following account is given by Lade:—"We traversed a great mountain in the neighbourhood of the Cape of Good Hope, and amused ourselves with hunting large apes, which are very numerous in that place. I can neither describe all the arts practised by these animals, nor the nimbleness and impudence with which they returned, after being pursued by us. Sometimes they allowed us to approach so near, that I was almost certain of seizing them. But, when I made the attempt, they sprang, at a single leap, ten paces from me, and mounted trees with equal agility, from whence they looked at us with great indifference, and seemed to derive

pleasure from our astonishment. Some of them were so large, that, if our interpreter had not assured us they were neither ferocious nor dangerous, our number would not have appeared sufficient to protect us from their attacks. As it could serve no purpose to kill them, we did not use our guns. But the captain levelled his piece at a very large one, that had rested on the top of a tree, after having fatigued us a long time in pursuing him: this kind of menace, of which the animal perhaps recollected his having sometimes seen the consequences, terrified him to such a degree, that he fell down motionless at our feet, and we had no difficulty in seizing him; but, when he recovered from his stupor, it required all our dexterity and efforts to keep him. We tied his paws together; but he bit so furiously, that we were under the necessity of binding our handkerchiefs over his head."

### *A Vigilant Sentinel.*

Le Vaillant had a dog-faced baboon with him, upon his expedition through the southern part of Africa, to which he gave the name of Kees. This animal was of great service to him; for he was a better sentinel than any of his dogs, and often gave him warning of the approach of beasts of prey, when the dogs seemed to know nothing of the matter.

### *Mutual Sagacity.*

Le Vaillant says,—"When Kees happened to tire on the road, he mounted upon the back of one of my dogs, who was so obliging as to carry him whole hours. One of them that was larger and stronger than the rest, hit upon a very ingenious artifice, to avoid being pressed into this piece of service. As soon as Kees leaped upon his

back, he stood still, and let the train pass, without moving from the spot. Kees still persisted in his intention, till we were almost out of his sight, when he found himself at length compelled to dismount, upon which both the baboon and dog exerted all their speed to overtake us. The latter, however, gave him the start, and kept a good look-out after him, that he might not serve him in the same manner again. In fact, Kees enjoyed a certain authority with all my dogs, for which he perhaps was indebted to the superiority of his instinct. He could not endure a competitor; if any of the dogs came too near him when he was eating, he gave him a box on the ear, which compelled him immediately to retire to a respectful distance."

### *Kees dreaded his own species.*

"Serpents excepted, there were no animals of whom Kees stood in such great dread, as of his own species,—perhaps owing to a consciousness, that he had lost a portion of his natural capacities. Sometimes he heard the cry of other apes among the mountains, and, terrified as he was, he yet answered them. But, if they approached nearer, and he saw any of them, he fled, with a hideous cry, crept between our legs, and trembled over his whole body. It was very difficult to compose him, and it required some time before he recovered from his fright."

### *A Cunning Rogue.*

"When any eatables had been pilfered," says Le Vaillant, "at my quarters, the fault was always laid first upon Kees; and rarely was the acusation unfounded. For a time, the eggs, which a hen laid me, were constantly stolen away, and I wished to ascertain whether I had to attribute this loss also to him. For this purpose,

I went one morning to watch him, and waited till the hen announced, by her cackling, that she had laid an egg. Kees was sitting upon my vehicle; but, the moment he heard the hen's voice, he leapt down, and was running to fetch the egg. When he saw me, he suddenly stopped, and affected a careless posture, swaying himself backwards upon his hind legs, and assuming a very innocent look; in short, he employed all his art to deceive me with respect to his design. His hypocritical manœuvres only confirmed my suspicions, and, in order, in my turn, to deceive him, I pretended not to attend to him, and turned my back to the bush where the hen was cackling, upon which he immediately sprang to the place. I ran after him, and came up to him at the moment when he had broken the egg, and was swallowing it. Having caught the thief in the fact, I gave him a good beating upon the spot: but this severe chastisement did not prevent his soon stealing fresh-laid eggs again.

"As I was convinced that I should never be able to break Kees of his natural vices, and that, unless I chained him up every morning, I should never get an egg, I endeavoured to accomplish my purpose in another manner: I trained one of my dogs, as soon as the hen cackled, to run to the nest, and bring me the egg, without breaking it. In a few days, the dog had learned his lesson; but Kees, as soon as he heard the hen cackle, ran with him to the nest. A contest now took place between them, who should have the egg: often the dog was foiled, although he was the stronger of the two. If he gained the victory, he ran joyfully to me with the egg, and put it into my hand. Kees, nevertheless, followed him, and did not cease to grumble and make threatening grimaces at him, till he saw me take the egg,—as if he was comforted for the loss of his booty by his adversary's not

retaining it for himself. If Kees had got hold of the egg, he endeavoured to run with it to a tree, where, having devoured it, he threw down the shells upon his adversary, as if to make game of him. In that case, the dog returned, looking ashamed, from which I could conjecture the unlucky adventure he had met with.

"Kees was always the first awake in the morning, and, when it was the proper time, he awoke the dogs, who were accustomed to his voice, and, in general, obeyed, without hesitation, the slightest motions by which he communicated his orders to them, immediately taking their posts about the tent and carriage, as he directed them."



## GENUS ATELES.—GEOFFROY.

*Generic character.* Incisory teeth $\frac{4}{4}$; canines $\frac{1.1}{1.1}$; grinder $\frac{6.6}{6.6}$; facial angle 60 degrees; ears bordered; extremities very long and slender; the anterior ones generally tetradactyle; no thumb, sometimes replaced by a wart; tail very long, and strongly prehensile; the under part, towards the point, naked.

### THE COAITA.

ATELES PANISCUS.—Geoffroy.

This animal is one of the most active and lively of its tribe; and, in a state of captivity, is of a tractable and gentle disposition. It inhabits the woods of South America; associating in immense troops; assailing such travellers as pass through their haunts, with an infinite number of sportive and mischievous gambols; chattering, and throwing down dry sticks; hanging by the tail from

the boughs, endeavouring to intimidate the passengers by a variety of menacing gestures. The face is flesh-coloured, and its whole body of a uniform black; it has no thumbs on its hands; but, instead of these, there are very small projections or appendices.

In their mischievous pranks, these animals seem to act without anger, and they only use annoyance to drive off the intruder.

The prehensile tail of the coaita is a singular provision of nature; it is upwards of two feet in length, nearly a foot longer than the body of the animal. It is almost as useful as an additional hand, as he employs it for the purpose of feeling and grasping objects, and of fetching things to him, which are too remote to be reached by the hand; and of suspending himself from the branches of trees. The prehensile part of the tail is naked, and has a second covering of a very delicate and sensitive skin, which is so susceptible of touch, that it appears to possess it even in a higher degree than the hands.



THE BLACK SPIDER MONKEY.

The accompanying portrait of this singular looking animal renders description unnecessary. Its long pliant

tail is of vast service to it in moving among the branches of trees. There are two very fine specimens of this species of monkey in possession of the Zoological Society of London, one presented by the Countess of Glengall, and the other by Sir. Robert Wilson.



## Genus MYCETES.—Illiger.

*Generic character.* Facial angle 30 degrees; head pyramidical; visage oblique; os hyoides very ventricose; outside prominent; the anterior hands provided with a thumb; tail very long, naked at the lower part of the extremity.

### THE GUARIBA; or, PREACHER MONKEY.

Mycetes Fuscus.—Desmarest.

The preacher monkey is about the size of a fox, and of a black colour, with smooth glossy hair: it has a round beard beneath the chin; the feet and point of the tail brown. It is a native of Guiana, where it inhabits the woods in immense numbers. The whole troop often set up the loudest and most doleful howling. We are informed by Marcgrave that one of them will sometimes mount up to the top branch of a tree, and, by a peculiar call, assemble a multitude of his species below; he then gives the signal, when the congregation set up the most horrible yell imaginable, which falls on the ear of the distant traveller like the war-whoop of an Indian tribe. After a certain space, he gives the signal with his hand, when the whole assembly join in a sort of singing chorus; but, on another signal, sudden silence prevails, when the leader seems to finish his harangue, and descends the

tree. The faculty this animal possesses of howling is owing to the conformation of the os hyoides, or throat bone, which is dilated into a bottle-shaped cavity.

It would be difficult to account for the impulse which directs the preacher to exercise this singular faculty in unison: those who have witnessed the circumstance, saw no apparent cause for it.



## Genus CEBUS.—Erxleben.

*Generic character.* Facial angle 60 degrees; the head round, with a short muzzle; the forehead somewhat prominent; the occiput projecting behind; the ears rounded; the os hyoides not prominent; the tail prehensile, and hairy all over.

### THE HORNED SAPAJOU.

Cebus Fatellus.—Desmarest.

The horned sapajou is about the size of a half grown cat, and remarkable for the tufts of hair, or horns on the head, which are very distinct, and afford a sufficient mark of discrimination from all other species. The claws on its hands and feet are longish, and somewhat blunted. The general colour of the horned sapajou is of a pale rusty hue, lighter beneath, and about the shoulders; the top of the head, and outsides of the limbs, and of the tail, blackish; the face is reddish brown, and covered with hair.

## Genus CALLITHRIX.—Cuvier.

*Generic character.* Facial angle 60 degrees; head small and rounded; ears large, misshapen; tail somewhat longer than the body, covered with short hair, and not prehensile; body slender, in proportion to its size.

### THE SQUIRREL MONKEY.

Callithrix Sciurus.—Desmarest

This species is a beautiful little animal, not much bigger than a squirrel; its colour is of a bright gold yellow, with orange-coloured hands and feet; the head is round; the nose blackish; the orbits of the eyes of a flesh colour; the ears are hairy and ill formed; the under parts are whitish; and the tail very long, with a black tip.

It is an inhabitant of Cayenne, Brazil, and other parts of South America



## Genus AOTUS.—Humboldt.

*Generic character.* Head large and round; muzzle short; eyes very large and approaching; nostrils separated by a very thin partition; ears small; tail as long as the body, covered with hair, but not prehensile.

### THE DOUROUCOULI.

Aotus Trivirgatus.—Geoffroy.

This animal is one of the most singular of all the four-handed tribe. The hair of its body is gray, mixed with

white, and exhibits a silvery lustre in the sun; and it has a brown line passing down the back. The breast, abdomen, and inner sides of the limbs are of a yellowish orange colour, inclining to brown. The forehead has three diverging lines of black; the face is covered with blackish hairs, and bears a considerable resemblance to that of the tiger cat. The eyes are of a bright yellow, and of great magnitude, compared with the size of the animal. The mouth is surrounded with short, white, bristly hairs. The palms of the hands are white. The tail is very handsome and bushy, and about half as long again as the body, same colour as the back, with a black point. There is no appearance of external ears, but, on separating the hairs, two large cavities are found, which are the organs of hearing. The length of the body, exclusive of the tail, is nine inches and a half.



## GENUS PITHECIA.

*Generic character.* Facial angle 60 degrees; ears rounded; tail a little longer than the body, not prehensile, and covered with long hair; feet with five toes; nails short and sharp.

### THE FOX-TAILED MONKEY.

PITHECIA RUFIVENTER.—Desmarest.

The fox-tailed monkey is an animal of a remarkable appearance, and above the size of the domestic cat. Its colour is of a dusky brown, with a slight rusty tinge through it, except on the head and face; from the top of the nose to the chin it is black, being of a pyramidal

form, and naked; the face is surrounded by white downy hair, which rises on each side of the forehead like a wig, thin towards the top, but extremely large and bushy at the cheeks and below them, but does not meet beneath the chin, leaving a bare space, as if it were shaven, and giving a singular aspect to the face. The eyes are large, and the ears round and flat; the hands and feet are furnished with sharpish claws; the tail is equal to the body in length, and even thicker and more brushy than that of a fox. The tusks of this species are remarkably large for the size of the animal. It inhabits French Guiana. This is the *Garqué* of Buffon; he figures another variety of the same animal, which he calls the *Singe de Nuit*, more shaggy and tufted in its fur.



## GENUS JACCHUS.—DESMAREST.

*Generic character.* Facial angle 50 degrees; head round; muzzle short; occiput prominent; tail longer than the body, soft, and entirely covered with hair; feet with five toes; the thumb of the anterior hands in the same direction as the fingers, and not opposable; nails very long, compressed, arched, and pointed.

### THE STRIATED MONKEY.

JACCHUS VULGARIS.—Desmarest.

The striated jacchus is one of the smallest of the monkey tribe, its head and body being hardly twelve inches in length; it has a very long tuft of ash-coloured hair before and behind the ears; its face is naked, and of a dull flesh colour; its ears large, and shaped very like the human; the body is beautifully marked with alternate

transverse bars of ash colour and black. Shoulders brownish red; tail long, bushy, and marked with alternate rings of ash colour and black; its nails are sharp, and its fingers resemble the claws of a squirrel.

This beautiful little animal is a native of Brazil, and feeds on fruits, vegetables, insects, and snails, and is said to be fond of fish.

### *United Care.*

We have an amusing account of the united care and attention paid by two striated monkeys to their offspring, born in the menagerie of the *Jardin des Plantes* at Paris. On the 27th April, 1819, the female brought forth three young ones, a male and two females. They instantly attached themselves to their mother, embracing her closely, and hiding themselves in her fur. However, previously to their sucking, she cruelly deprived one of them of life, and cut its head off. The two others took the breast, and from that moment the mother bestowed on them the natural attention of a parent, and her cares were shared by the father. When the female was fatigued by carrying the young ones, she would approach the male, and send forth a little plaintive cry, and immediately the latter would take them with his hands, and place them under him, or on his back, where they held fast, and thus he would carry them about until they showed uneasiness for want of suck, when he returned them to the female, who, after satisfying their wants, got rid of them again as soon as possible. The principal burden of the care of the young devolved upon the male. The mother did not evince for them that degreee of tenderness and affection, so usual in the females of most species.

## THE FAIR MONKEY.

JACCHUS ARGENTATUS.—Geoffroy.

*Generic character.* The fair monkey is one of the most beautiful of the tribe. Its head is small and round; its face and hands are of the most vivid scarlet; so much so, that it has more the appearance of art than nature. Its body and limbs are covered with long hairs of the purest white, of a shining and silvery brightness; the tail is long, of a deep chestnut colour, very glistening, and considerably longer than the body. This animal is somewhat larger than the striated monkey. It is an inhabitant of South America, and is frequently to be met with on the banks of the Amazon.

### *A Treacherous Husband.*

The following circumstance, exhibiting the fickleness of the fair monkey, was communicated to Mr. Bewick by the present Sir John Trevelyan of Wallington and Nettlecome, in June, 1809.

"Pug was a gentleman of excellent humour, and adored by the crew; and, to make him perfectly happy, as they imagined, they procured him a wife. For some weeks, he was a devoted husband, and showed her every attention and respect. He then grew cool, and became jealous of any kind of civility shown her by the master of the vessel, and began to use her with much cruelty. His treatment made her wretched and dull; and she bore the spleen of her husband with that fortitude which is characteristic of the female sex of the human species. And Pug, like the lords of the creation, was up to deceit, and practised pretended kindness to his spouse, to effect a dia-

bolical scheme, which he seemed to premeditate. One morning, when the sea ran very high, he seduced her aloft, and drew her attention to an object at some distance from the yard-arm; her attention being fixed, he all of a sudden applied his paw to her rear, and canted her into the sea, where she fell a victim to his cruelty. This seemed to afford him high gratification, for he descended in great spirits."

## MONKEYS WHOSE SPECIES ARE NOT KNOWN.

### *Dancing Monkeys.*

A king of Egypt was so succesful in training monkeys to the art of dancing, that they were long admired for the dexterity and gracefulness of their movements. On one occasion his majesty had a ball, at which a vast number of these animals "tripped it on the light fantastic toe." A citizen, who enjoyed fun, threw a few handfuls of walnuts into the ball-room, while these picturesque animals were engaged in a high dance, upon which they forgot all decorum, and sprung to the booty.

### *Instance of Extreme Affection.*

Forbes mentions, in his *Oriental Memoirs*, that, while on a shooting party, one of his friends killed a female monkey, and carried her to his tent, which was soon surrounded by forty or fifty of the tribe, who made a great noise, and seemed disposed to attack the aggressor. When, however, he presented his fowling-piece, they retreated, being fully sensible of its dreadful effects, which experience had taught them. The head of the troop was not to be intimidated, and stood his ground, chattering furiously. Humanity prompted the sportsman to desist from firing on him, and nothing short of firing would

frighten him. Finding threats of no avail, he at length approached the door of the tent, set up a lamentable moaning, and, by the most expressive gestures, began to beg for the dead body. It was given him; he took it sorrowfully in his arms, and bore it away to his expecting companions. Those who witnessed this extraordinary and affecting scene, resolved never again to fire at one of the monkey race.

### *Fighting Monkeys.*

Animals of the monkey kind, of which we have no specific account, abound in the plains and forests of the Ukraine. These animals form separate parties, or classes, and, at certain times, meet in hostile bands, and engage in pitched battles. The opposing armies have their chiefs, and officers of several subordinate ranks. The various combatants appear to obey orders, and proceed with the same regularity that men do on the like occasions. Cardinal Polignac, who was sent ambassador by Louis the Fourteenth, in order to support the interests of the Prince of Condé, against Stanislaus, had often an opportunity of witnessing these creatures engage. He tells us, that they gave the word of command for the onset, by a sort of shriek, when they advanced in regular companies, each headed by its particular chief; and on meeting, these chiefs engaged in combat with the most desperate fury.

### *Thievish Habits.*

A monkey, which was kept on board a frigate, was the favourite of all on board, but the midshipmen. This animal knew well of a large store of apples being in a locker in the ward-room, which was kept constantly secure, in consequence of his propensity for plundering it.

He, however, fell upon ways and means to secure his booty. He procured a piece of wadding, swung himself from the stern gallery by one hand, and, with this in the other, broke a pane of glass in the ward-room window; and, after carefully picking out all the broken pieces of glass, made his *entrée*, where he gorged himself so fully, that he was unable to effect his retreat by the place where he entered. He was caught in the fact, and soundly flogged.

### *Odd Defence.*

A singular piece of ingenuity was practised by a monkey, in defending himself against fire-arms. This animal belonged to Captain M——, of the navy, who had also another small monkey, of which he was very fond, from its lively playfulness. The large monkey was often exceedingly troublesome, and could not be driven from his cabin, without *blazing at* him with a pistol, loaded with powder and currant jelly,—a discharge which produced a painful and very fearful effect. The old monkey was at first astounded at the sight of the weapon, which stung him so sore, that he at last learned a mode of defence; and, snatching up the little favourite monkey, used to interpose him as a shield between the pistol and his body.

### *Farce and Tragedy.*

It was probably the mona, or varied monkey, of which an amusing, though tragical, account is given by Le Vaillant. In one of his excursions, he killed a female monkey, which carried a young one on her back. The young one continued to cling to her dead parent, till they reached their evening quarters; and the assistance of a negro was even then required to disengage it. No

sooner, however, did it feel itself alone, than it darted towards a wooden block, on which was placed the wig of Le Vaillant's father. To this it clung most pertinaciously by its fore paws; and such was the force of this deceptive instinct, that it remained in the same position for about three weeks, all this time evidently mistaking the wig for its mother. It was fed, from time to time, with goat's milk; and, at length, emancipated itself voluntarily, by quitting the fostering care of the peruke. The confidence which it ere long assumed, and the amusing familiarity of its manners, soon rendered it a favourite with the family. The unsuspecting naturalist had, however, introduced a wolf in sheep's clothing into his dwelling; for, one morning, on entering his chamber, the door of which had been imprudently left open, he beheld his young favourite making a hearty breakfast on a very noble collection of insects. In the first transports of his anger, he resolved to strangle the monkey in his arms; but his rage immediately gave way to pity, when he perceived that the crime of its voracity had carried the punishment along with it. In eating the beetles it had swallowed several of the pins on which they were transfixed. Its agony, consequently, became great; and all his efforts were unable to preserve its life.



## Genus INDRIS.—Lacepede.

*Generic character.* Incisory teeth $\frac{4}{4}$; canines $\frac{1\,1}{1\,1}$; grinders $\frac{5\,5}{5\,5}$; total 32; the superior incisory teeth are united by pairs; the external inferior ones broadest; the grinders have a tuberculated crown; two mammæ, which are pectoral; the head long and triangular; posterior members rather long; first finger of the hind feet next

the thumb, terminated by a sharp reflected nail; tail, when it exists, not prehensile.

### THE SHORT-TAILED INDRIS.

INDRIS BREVICAUDATUS.—Desmarest.

This is an animal of considerable size, measuring three feet and a half in height, when standing erect. The face is lengthened, and much the shape of a dog's; the ears rather short and somewhat tufted; the face, lower part of the abdomen, and rump, are white. All the other parts of the body are of a blackish hue. The fur is silky and thick-set and, in some parts, of a curly or crisped appearance. The nails in this species are flat, but pointed at the ends; and there is no appearance of a tail. It is said to be a mild and gentle animal, and to be sometimes trained to the chase, like a dog, when young, by the natives of Madagascar, of which island it is a native. Its voice resembles an infant's cry. In its native island, it is well known by the name of Indri, which is said to signify "the man of the woods."



## GENUS LEMUR.—LINNÆUS.

*Generic character.* Incisory teeth $\frac{4}{6}$; canine teeth $\frac{1\,1}{1\,1}$; grinders $\frac{5\,5}{4\,4}$; total 32; upper incisory teeth united in pairs; lower ones long and inclined; the grinders, with a blunt tubercle on their crown; head long, triangular, with a slender muzzle; the ears are short and rounded; low, pectoral mammæ; the fourth toe of the feet is larger than the others; the tail is longer than the body, covered with hair, and not prehensile: hair soft and woolly.



THE BLACK-FRONTED LEMUR.

LEMUR NIGRI FRONS.—Geoffroy.

This is a South American monkey. It was first described by M. Geoffroy Saint Hilaire. The figure is drawn from a specimen in possession of the London Zoological Society. It is represented as perfectly tame and good tempered, extremely agile, and entirely free from the petulance and grimace which characterize the monkeys of the Old World.

THE MACACO; OR, RUFFED LEMUR.

LEMUR MACACO.—Linnæus.

The macaco inhabits the woods of Madagascar, and some others of the Indian islands; and, unlike its congeners, is said to be of a fierce disposition, and extremely difficult to tame. Buffon describes this animal under the name of Vari, from its colours frequently consisting of a patched distribution of black and white; which is rather to be considered as an accidental variety, its natural co-

lour having been described by later naturalists as entirely black. Its voice is said to be uncommonly shrill, which it frequently exerts, in the manner of the preacher monkey, which we have described at page 56.

Edwards mentions a tame one, as being "a very sociable, gentle, harmless natured animal, not having the cunning, mischievousness, or malice, of the monkey kind."

*Worshippers of the Sun.*

The idea which has prevailed, that the ruffed lemur has some obscure notion of the existence of a Supreme Being, to whom he pays his adoration, has, indeed, little foundation or probability, though the circumstance that has given rise to it is rather of a singular nature. Several observers have remarked, that these animals place themselves opposite to the sun, and seem to admire or rejoice at the sight of it. They are said to sit down, and stretch out their hands, while they direct their eyes to this luminary; and also to turn themselves towards the sun, at its rising and setting, as well as at several other times in the course of the day, and for whole hours at a time.

Sonnini assures us, that he has observed these practices, in a ruffed lemur, at Cayenne, which had been brought thither in a vessel from Moluccas. It is probable that this custom may proceed from the circumstance, that this animal is of a very chilly constitution, and therefore wishes to warm himself with the genial rays of the sun. Buffon kept a ruffed lemur for several years, in Burgundy, that always sat very close to the fire, and stretched out his arms towards it, like a human being, to warm himself.

## GENUS LORIS.—GEOFFROY.

*Generic character.* Incisory teeth $\frac{4}{4}$; canine teeth $\frac{1\,1}{1\,1}$; grinders $\frac{6\,6}{5\,5}$; total 36; upper incisory teeth very small, and separated in the middle; grinders, with sharp-pointed crowns; head round; muzzle reflected; nose rather long; eyes very large; ears short and hairy; pectoral mammæ, four in number; without a tail.

### THE SLENDER LORIS.

LORIS GRACILIS.—Geoffroy.

This remarkable quadruped has been confounded by many naturalists with the slow lemur; but its manners and physical character are pefectly distinct. It is considerably smaller than the slow lemur, its body very slender, and its limbs remarkably thin; and, like it, totally destitute of a tail, or even the rudimentary process of one, except in the skeleton; and totally unlike the other in its habits. It is, on the contrary, lively, vivacious, and agile. It is of a mouse colour, inclining to yellow.



## GENUS GALAGO.—GEOFFROY.

*Generic character.* Incisory teeth $\frac{2}{6}$; or $\frac{4}{6}$; the lower ones generally horizontal; canine teeth $\frac{1\,1}{1\,1}$; grinders $\frac{6\,6}{5\,5}$; ears very long, membranous, and naked; eyes large, and approaching; hind legs long; tail very long, not prehensile; with two pectoral mammæ.

### THE GREAT GALAGO.

GALAGO CRASSICAUDATUS.—Desmarest.

The fur of the great galago is of a grayish red; the ears are two-thirds the length of the head; the tail greatly tufted. It is about the size of a rabbit, and inhabits Senegal.

The galago is a nocturnal animal, lives on insects, and has much the manners of the monkey tribe. It is exceedingly agile, living on the branches of trees, where it catches insects with its hands, and speedily devours them. They also live upon the gum-senegal, and are very numerous in the forests, where the trees which produce this gum are found. The natives of Senegal make this animal an article of food.



## GENUS TARSIUS.—CUVIER.

*Generic character.* Incisory teeth $\frac{4}{2}$, equal; canine teeth $\frac{1\,1}{1\,1}$, small; grinders $\frac{6\,6}{6\,6}$; total 34; muzzle very short; ears large and naked; the hinder legs very long, the tarsus being three times the length of the metatarsus; the tail is very long.

### THE WOOLLY TARSIUS.

TARSIUS SPECTRUM.—Geoffroy.

This animal is described by Sonnerat as being one foot nine inches in length, from the nose to the tail: the tail itself being nine inches. It is of a pale rust colour on

the upper parts, and white beneath; the tail being of a bright rusty hue. The fur is extremely soft and crisped, and of a deeper colour on the region of the loins; the face is black; the ears small; the eyes large, and of a greenish gray; the feet have five fingers, with long claws, except the thumbs, which have rounded nails. This curious animal inhabits the island of Amboyna, and other parts of the Indian peninsula.



## Genus CHEIROMYS.

*Generic character.* Incisory teeth $\frac{2}{2}$, strong; no canine teeth, but a vacant space where they should be; grinders $\frac{4\ 4}{3\ 3}$; total 18; fore feet short, with the middle finger very long and thin; hind legs and tail long, the latter tufted; with two inguinal mammæ.

### THE AYE-AYE.

Cheiromys Madagascarensis.—Desmarest.

Dr. Shaw says, "This highly singular species has so much the general appearance of a squirrel, that it has been referred to that genus, both by Penant and Gmelin, in his editions of the *Systema Naturæ of Linnæus.*" M. Sonnerat, its first describer, says, it is allied to the macaucos, the squirrels, and the monkeys. Its length, exclusive of the tail, is from sixteen to eighteen inches; and the tail is about the same length. The ordinary colour of this animal is pale rusty brown, mixed with black and gray; on the head, round the eyes, and on the upper parts of the body, the rusty brown prevails, with a blackish cast on the back and limbs; the tail is entirely black; the sides of the head, the neck, lower jaw, and the belly,

are grayish; there are also a kind of woolly hairs of this colour, two or three inches in length, scattered over the whole body; the thighs and legs have a reddish cast; the black prevails on the feet, which are covered with hairs of that colour; the head is shaped like that of a squirrel; the ears are round, large, and naked, resembling those of a bat, and of a black colour. The feet are long, and somewhat resemble those of the tarsier; the thumbs, or anterior toes, of the hind feet, are short, and furnished with flat round nails, as in the macacos; but the principal character of the animal consists in the extraordinary structure of the fore feet, which have the two middle toes of an uncommon length, most extremely thin, and perfectly naked, except at their base; all the claws on the fore feet are sharp and crooked. It is a timid animal, can scarcely see distinctly by day, and its eyes, which are of an ochre colour, resemble those of an owl.

The aye-aye is a native of Madagascar, where it inhabits the woods, and is an extremely rare animal; it is supposed to feed on fruits, insects, &c. The native name of this animal is *aye-aye*, which is taken from the sound of its voice, resembling that word twice repeated.



## Genus PHYLLOSTOMA.—Geoffroy.

*Generic character.* Incisory teeth $\frac{4}{4}$, pressed close between the canine teeth, the intermediate being the largest; canine teeth $\frac{1\cdot1}{1\cdot1}$; cheek teeth $\frac{5\cdot5}{5\cdot5}$; total 32; the nose supporting two membranous crests, one like a leaf, and the other like a horse-shoe; ears large, naked, not united; auricle internal; tail and interfemoral membrane varying in the different species; tongue furnished with sharp horny prickles.



THE SPECTRE PHYLLOSTOMA; OR, SPECTRE VAMPYRE.

PHYLLOSTOMA SPECTRUM.—Geoffroy.

This frightful looking animal, one of the largest of the bat tribe, is a native of South America, and some of the islands of the Pacific Ocean. It has an insatiable thirst for blood, like many others of its congeners. M. de Condamine says,—"The bats, which suck the blood of horses, mules, and even men, when not guarded against, by sleeping under the shelter of a pavilion, are a scourge to most of the hot countries of America." He asserts, that, in his time, at Boria, and several other places, in certain situations, they had even destroyed the breed of great cattle introduced there by the missionaries.

We are assured by Mr. Foster, that this animal is very numerous in the Friendly Islands, where he has seen them hanging like swarms of bees, in clusters, and not fewer than five hundred of them, suspended from trees, some by their fore feet, and others by their hind legs.

The length of the body of the spectre vampyre is about six inches; and the extent of its wings, upwards of two feet

## *A Nightly Assassin.*

**Be thou a spirit of health, or goblin damn'd,**
**Bring with thee airs from heaven, or blasts from hell!**
**SHAKSPEARE.**

Captain Stedman in his *Narrative of a Five year's Expedition against the revolted Negroes of Surinam,* relates, that, on awaking about four o'clock one morning in his hammock, he was extremely alarmed at finding himself weltering in congealed blood, and without feeling any pain whatever. "The mystery was," says Captain Stedman, "that I had been bitten by the vampyre, or spectre of Guiana, which is also called the flying dog of New Spain; and, by the Spaniards, *perrovolador.* This is no other than a bat of monstrous size, that sucks the blood from men and cattle, while they are fast asleep, even sometimes till they die; and, as the manner in which they proceed is truly wonderful, I shall endeavour to give a distinct account of it. Knowing, by instinct, that the person they intend to attack is in a sound slumber, they generally alight near the feet, where, while the creature continues fanning with his enormous wings, which keeps one cool, he bites a piece out of the tip of the great toe, so very small, indeed, that the head of a pin could scarcely be received into the wound, which is, consequently, not painful; yet, through this orifice, he continues to suck the blood, until he is obliged to disgorge. He then begins again, and thus continues sucking, and disgorging, until he is scarcely able to fly, and the sufferer has often been known to pass from time to eternity. Cattle they generally bite in the ear, but always in places where the blood flows spontaneously. Having applied tobacco ashes, as the best remedy, and washed the gore from myself and hammock, I observed

several small heaps of congealed blood, all round the place where I had lain, upon the ground; on examining which, the surgeon judged that I had lost, at least, twelve or fourteen ounces of blood."



## Genus VESPERTILIO.—Linnæus.

*Generic character.* Incisory teeth $\frac{4}{6}$; the upper ones separated in pairs, cylindrical, and pointed, the lower very close, with two cutting lobes directed forward; canine teeth $\frac{1\,1}{1\,1}$; cheek teeth $\frac{4\,4}{5\,5}$, $\frac{6\,6}{6\,6}$, or $\frac{5\,5}{6\,6}$; total from 32 to 36; the anterior teeth simply conical, the posterior having several sharp points or prominences; the nose simple, without membraneous appendage, ridge, or furrow; ears lateral and distinct, internal ears visible; index finger with but one phalanx, the middle with three, the annular and little finger with two; tail not exceeding the interfemoral membrane; sebaceous glands under the skin of the face, assuming different forms and dimensions, in the various species.

### THE COMMON BAT.

Vespertilio Murinus.—Linnæus.

This well known little animal is about the size of a small mouse, and measures nearly nine inches, from the tip of the one wing to that of the other, when they are expanded. The ears are short, and have each a small inner valve. The eyes are very minute. The fur is a reddish mouse colour.

The common bat is an animal which spends the winter in a state of torpidity, without motion, suspended, in some dark hole, by one of its feet. During this state,

the circulation of their blood is so slow, that its motion is hardly perceptible. There is a total suspension of the powers of its digestive organs. In this condition the bat continues, till the insect tribe, which are his principal food, are again on the wing; the same heat which re-animates them, gives a genial impulse to the respiratory organs of the bat, when he again flies abroad in the evening, with a keen appetite, in search of food.

From the experiments of Spallanzani,* it would almost appear, that a total suspension of vital energy takes place in animals during this state of torpor; for he kept a torpid bat four hours in carbonic acid gas, the thermometer marking twelve degrees; yet it continued to live in this, which is so very deleterious, that a bird and a rat, which he exposed to its influence at the same time, perished instantaneously.

Pursuing his experiments still farther, he says,—"I first wished to ascertain if, when respiration was suspended in these animals, there would be any production of carbonic acid from the skin; for which purpose, I substituted azotic for carbonic acid gas. I then placed in this gas two bats, the thermometer standing at nine degrees; and allowed them to remain in it about two hours; after which, I gradually removed them into a warmer medium, when they exhibited evident signs of life; but I could discover no carbonic acid gas in the azotic gas,—from which I was led to conclude, that the temperature was too low for the exhalation of this gas. I repeated these experiments at different temperatures successively raised to three and a half degrees, when five hundredths of carbonic acid gas were produced, although the torpidity of the animals was equally great.

* Mémoires sur la Respiration.

"In this state of things, I repeated the experiments under similar circumstances, only removing the bats into another vessel, filled with atmospheric air, when I found not only the production of five and a half hundredths of carbonic acid gas, but the destruction of six hundredths of oxygen gas. Although these two small quadrupeds were enclosed in common air, their profound torpor prevented them altogether from respiring; nor could that swelling and sinking in their sides be perceived, which are occasioned by the inflation and collapse of the lungs during respiration; neither did these phenomena occur in the open air. From all which, it is evident, that the partial consumption of oxygen gas was in consequence of its absorption by the skin."

### *Predatory Habits.*

The bat, like many other animals, is capable of being rendered somewhat tame. Mr. White, in the *Natural History of Selborne*, says,—I was much entertained last summer with a tame bat, which would take flies out of a person's hand. If you gave it any thing to eat, it brought its wings round before the mouth, hovering and hiding its head, in the manner of birds of prey when they feed. The adroitness it showed in shearing off the wings of flies, which were always rejected, was worthy of observation. Insects seemed to be most acceptable, though it did not refuse raw flesh when offered; so that the notion that bats go down chimneys and gnaw men's bacon seems no improbable story.

## Genus ERINACEUS.—Linnæus.

*Generic character.* Incisory teeth $\frac{6}{6}$; canines $\frac{1\ 1}{1\ 1}$; molars $\frac{5\ 5}{4\ 4}$; total 34; the intermediate upper incisory teeth separate, and are of a cylindrical shape; the canine teeth are smaller than the grinders; the body is thick, covered with prickles on the back and sides, and on the belly, with long stiff tubulate hairs; the crown of the head, high; the muzzle acute; the ears are of a medium size, and somewhat rounded; the toes have small nails; tail very short; and in some species none; the mammæ are ten in number—six of them pectoral, and four ventral.

### THE HEDGEHOG.

Erinaceus Europæus.—Linnæus.

Hedgehogs are inhabitants of most temperate parts of Europe, and frequent hedgerows and thickets. They feed on fruits, roots, snails, insects, and also on flesh. We are surprised to see some naturalists of the present day deny this fact. This was well known to Buffon, who says,—"They ate caterpillars, beetles, and worms, and were also very fond of flesh, which they devoured boiled or raw." Later observation proves them to be also predatory animals, as will be seen from the following anecdote of "a poacher;" and Mr. Woodcock, surgeon, Bury, Lancashire, obtained one from a peasant, which was rolled up, and had in its mouth a toad, the head of which, and one of the legs, were entirely consumed; and when he attempted to pull it away, the animal seemed to hold the firmer. The hedgehog also feeds on eggs, and does considerable mischief during the breeding season, to

game. They have been known to enter a hen-house, drive the hen off her nest, and devour the eggs.

The hedgehog lives in a state of torpidity during the winter. It forms a warm hybernaculum of leaves and moss, in which it conceals itself, generally in a round hole, which it digs at the root of a hedge.

That the hedgehog climbs trees, and disengages the fruit, which they attach to their spines, and carry away when they descend, is quite a fable; and that they suck cattle, is equally absurd.

### *Ingenuity in a Hedgehog.*

During the summer of 1818, as Mr. Lane, the gamekeeper to the earl of Galloway, was passing by the wood of Calscadden, near Garliestown, in Scotland, he fell in with a hedgehog, crossing the road, at a small distance before him, carrying on his back six pheasant's eggs, which, upon examination, he found it had pilfered from a nest hard by. The ingenuity of the creature was very conspicuous, as several of the remaining eggs were holed, which must have been done when in the act of rolling itself over the nest, in order to make as many adhere to its prickles as possible. After watching the motions of the urchin a short time, Mr. Lane saw it deliberately creep into a furze bush, where the shells of several eggs were strewed around, and which had, doubtless, been conveyed thither in a similar manner.

### *A singular Turnspit.*

In the year 1799, there was a hedgehog in the possession of Mr. Sample, of the Angel Inn, at Felton, in Northumberland, which performed the duty of a turnspit, as well, in all respects, as the dog of that denomination. It ran about the house with the same familiarity as any

other domestic quadruped, and displayed an obedience, till then unknown in this species of animal.



## GENUS TALPA.—LINNÆUS.

*Generic character.* Incisory teeth $\frac{6}{8}$; small, placed vertically in the upper jaw, forming an arch, and a little inclining in the lower; canine teeth $\frac{1\,1}{1\,1}$, triangular; cheek teeth $\frac{7\,7}{6\,6}$; the three anterior in the upper, and the two in the lower jaw, smaller than the rest; head elongated; eyes extremely small; no external ears; pentadactylous; fore feet very large, turned, with the lower edge trenchant; toes united to the nails, which are strong, and slightly arched; hinder feet weak.

### THE MOLE.

TALPA EUROPÆA.—Linnæus.

The form of this creature's body, and the peculiar construction of its fore feet, admirably adapt it for the purpose of making its way through the earth, which it does with astonishing facility. These are quite naked, being broad, and formed extremely like the palms of human hands. They have five toes on each, terminated with strong nails, very concave on the under side; and, in place of a thumb, they have a strong bone under the skin; the hind feet are very small, with five slender toes, and a little thumb on the inside. Whenever the mole happens to be surprised on the surface of the ground, it disappears in an instant, and every attempt to prevent it from reaching its subterraneous retreat would prove abortive. The female brings forth in April, and generally produces four or five at a time.

Moles are said to be very ferocious animals. We are told that a mole, a toad and a viper, were enclosed in a glass case; the mole despatched the other two, and devoured a great part of each.

The Ettrick Shepherd thinks that farmers ought not to destroy moles; for he considers them of much utility in spreading manure.

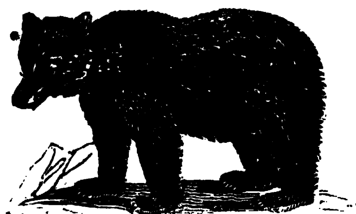
The smell of garlic is so offensive to moles, that to get rid of them, nothing more is necessary than to introduce a few heads of it into their subterranean vaults.



## Genus URSUS.

*Generic character.* Incisory teeth $\frac{6}{6}$; canines $\frac{1-1}{1-1}$; molars $\frac{4}{4}$ to $\frac{7}{7}$; total number from 32 to 44; the false molars are very small, make their appearance late, and fall out early; body thick, and covered with strong hair; the ears are somewhat long, and slightly acuminated; toes, five, furnished with strong curved claws, destitute of retractility, blunt in their edges, and more calculated for climbing trees and burrowing in the earth, than for the purposes of prehension or destroying other animals; the tail is short; and they have six mammæ, two of which are pectoral, and four of them ventral.

Bears are large and clumsy animals, with thick limbs. The cartilage of their nose is mobile. They dig caves for their residence, where they pass the winter in a state of semi-torpidity, and without taking any aliment. It is in these retreats, in the month of January, that the female brings forth, generally producing two at a birth.



THE BEAR.

URSUS ARCTOS.—Linnæus.

The brown bear was, in former times, an inhabitant of the whole of Europe, but is now completely extirpated from Britain, France, Holland, and the greater part of Germany. He is still plentiful in America, in the Alps, and in the higher forests of Poland, Bohemia, and Russia, and is found in vast numbers, as far east as Kamschatka and Japan. There is a white variety of this species, which is entirely different from the Polar bear, and is to be met with in high northern latitudes.

The ordinary size of the brown bear is about four feet in length, and nearly two feet and a half high. His usual colour is of a deep brown, which becomes nearly black on the legs and feet. The forehead rises abruptly from behind the eyes, and assumes a regular convex form. The muzzle is broad, terminating in a moveable extremity. The upper lip is capable of great extension; and the eyes are very small.

The brown bear is a solitary animal; for he only remains associated with his mate for a short period, and then retires to his sequestered retreat, which is usually in the hole of a rock, the cavity of a tree, or a pit in the earth, which the animal frequently digs for himself. He

sometimes constructs a kind of hut, composed of the branches of trees, which he lines with moss. In these situations he continues, for the most part, in a lethargic state, taking no food, but subsisting entirely on the absorption of the fat which he has accumulated in the course of the summer.

Bears seldom attack man, unless when stimulated by aggression; but, if irritated, they prove most formidable enemies to encounter. They are capable of climbing trees with great ease. Bear-hunting formed a favourite amusement in former times in England, and is still practised in northern countries.

The principal food of the bear is roots, and esculent vegetables; but, when hungry, he will also eat flesh.

The modes that are adapted by the inhabitants of different countries, for taking or destroying bears, are various. Of these, the following appears to be the most remarkable: In consequence of the well known partiality of these animals for honey, the Russians sometimes fix to those trees where bees are hived, a heavy log of wood at the end of a long string. When the unwieldy creature climbs up, to get at the hive, he finds himself interrupted by the log; he pushes it aside, and attempts to pass it; but, in returning, it hits him such a blow, that, in a rage, he flings it from him with greater force, which makes it return with increased violence; and he sometimes continues this, till he is either killed, or falls from the tree.

In Lapland, hunting the bear is often undertaken by a single man, who, having discovered the retreat of the animal, takes his dog along with him, and advances towards the spot. The jaws are tied round with a cord, to prevent his barking; and the man holds the other end of this cord in his hand. As soon as the dog smells the

bear, he begins to show signs of uneasiness, and, by dragging at the cord, informs his master that the object of his pursuit is at no great distance. When the Laplander, by this means, discovers on which side the bear is stationed, he advances in such a direction, that the wind may blow from the bear to him, and not the contrary; for otherwise, the animal would, by the scent, be aware of his approach, though not able to see the enemy, being blinded by sunshine. The olfactory organs of the bear are exquisite. When the hunter has advanced to within gunshot of the bear, he fires upon him; and this is very easily accomplished in autumn, as he is then more fearless, and is constantly prowling about for berries of different kinds, on which he feeds at this season of the year. Should the man chance to miss his aim, the furious beast will directly turn upon him in a rage, and the little Laplander is obliged to take to his heels with all possible speed, leaving his knapsack behind him on the spot. The bear, coming up to this, seizes upon it, biting and tearing it into a thousand pieces. While he is thus venting his fury, the Laplander, who is generally a good marksman, re-loads his gun, and usually destroys him at the second shot: if not, the bear, in most cases, runs away.

### *Expert Climber.*

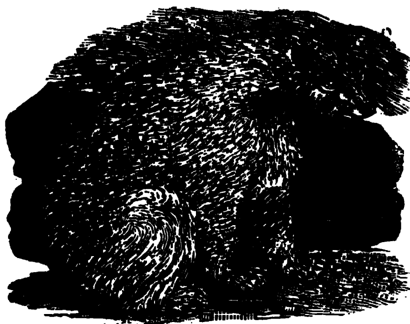
In the end of June, 1825, a tame bear took a notion of climbing up the scaffolding placed round a brick stalk, erecting by Mr. G. Johnstone, at St. Rollox. He began to ascend very steadily, cautiously examining, as he went along, the various joists, to see if they were secure. He at length, to the infinite amusement and astonishment of the workmen, reached the summit of the scaffolding, one hundred and twenty feet high. Bruin had no sooner attained the object of his wishes, than his physiognomy

exhibited great self-gratulation; and he looked about him with much complacency, and inspected the building operations going on. The workmen were much amused with their novel visitor; and every mark of civility and attention was shown him, which he very condescendingly returned, by good-humouredly presenting them with a shake of his paw. A lime bucket was now hoisted, in order to lower him down; and the workmen, with all due courtesy, were going to assist him into it; but he declined their attentions, and preferred returning in the manner he had gone up. He afterwards repeated the visit.

### *A Generous Host.*

Leopold, Duke of Lorraine, had a bear called Marco, of the sagacity and sensibility of which we have the following remarkable instance: during the winter of 1709, a Savoyard boy, ready to perish with cold in a barn, in which he had been put by a good woman, with some more of his companions, thought proper to enter Marco's hut, without reflecting on the danger which he ran in exposing himself to the mercy of the animal which occupied it. Marco, however, instead of doing any injury to the child, took him between his paws, and warmed him, by pressing him to his breast until next morning, when he suffered him to depart to ramble about the city. The young Savoyard returned in the evening to the hut, and was received with the same affection. For several days he had no other retreat; and it added not a little to his joy, to perceive that the bear regularly reserved part of his food for him. A number of days passed in this manner without the servants knowing any thing of the circumstance. At length, when one of them came one day to bring the bear its supper, rather later than ordina-

ry, he was astonished to see the animal roll his eyes in a furious manner, and seeming as if he wished him to make as little noise as possible, for fear of awaking the child, whom he clasped to his breast. The bear, though ravenous, did not appear the least moved with the food which was placed before him. The report of this extraordinary circumstance was soon spread at court, and reached the ears of Leopold, who, with part of his courtiers, was desirous of being satisfied of the truth of Marco's generosity. Several of them passed the night near his hut, and beheld, with astonishment, that the bear never stirred as long as his guest showed an inclination to sleep. At break of day, the child awoke, was very much ashamed to find himself discovered, and, fearing that he would be punished for his temerity, begged pardon. The bear, however, caressed him, and endeavoured to prevail on him to eat what had been brought to him the evening before, which he did at the request of the spectators, who afterwards conducted him to the prince. Having learned the whole history of this singular alliance, and the time which it had continued, Leopold ordered care to be taken of the little Savoyard, who, doubtless, would have soon made his fortune, had he not died a short time after.



THE POLAR BEAR.

URSUS MARITIMUS.—Erxleben.

The polar bear is an animal of much greater magnitude than any of the species which are to be found on land; for, one which was measured by Captain Lyon, in his northern expedition, was eight feet seven inches and a half in length, and weighed sixteen hundred pounds.

The shape of this species is also considerably different from that of the land bears. It seems fitted, in an eminent degree, to spend its existence in a liquid element. It is much longer in the body than the other, and its legs thicker and shorter. It also differs much in the shape of its head; when viewed in profile, the line is nearly straight, and the upper part of its cranium is rather depressed. The muzzle is broader and thicker, and the head much narrower, and more cylindrical. But one of the most remarkable characteristics of the animal is the length and thickness of the neck, it being nearly equal to the head, and almost twice as long as that of the brown bear; while the ears and mouth are extremely small.

The fur is very long and thick, of a bright white beneath, and, on its upper surface, of a yellowish tinge. There is a circle of black around each eye, and the nose is also tipt with black, as well as the margins of the lips. The soles of the feet are thickly covered with hair, which gives the animal a firm footing on the ice; and the claws are short, black, and nearly straight.

Besides the difference in external character, there is a remarkable distinction between the brown and the polar bears; for the former prefers, as his abode, the wooded summits of Alpine regions, feeding principally on roots and vegetables; while the latter fixes his residence on the sea coast, or on an iceberg, and seems to delight in the stormy and inhospitable precincts of the arctic circle, where vegetation is scarcely known to exist, feeding entirely on animal matter. But it cannot be regarded as a predatory quadruped, for it seems to prefer dead to living animal food, its principal subsistence being the floating carcases of whales. It also preys upon seals, which it catches with much keenness and certainty as they ascend to the surface of the ocean to breathe; and sometimes fish are caught by them, when they enter shoals or gulfs. They move with great dexterity in the water, and capture their prey with apparent ease. It is only when these bears quit their winter quarters, and especially when the female has to protect her young, that they manifest great ferocity.

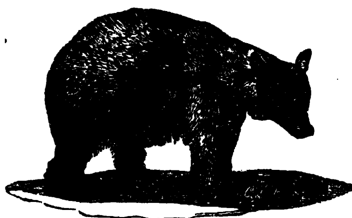
### *Maternal Affection.*

While the Carcass, one of the ships of Captain Phipps's voyage of discovery to the North Pole, was locked in the ice, early one morning the man at the mast head gave notice, that three bears were making their way very fast over the frozen ocean, and were directing their course

towards the ship. They had no doubt been invited by the scent of some blubber of a sea horse, which the crew had killed a few days before, and which, having been set on fire, was burning on the ice at the time of their approach. They proved to be a she bear and her two cubs; but the cubs were nearly as large as the dam. They ran eagerly to the fire, and drew out from the flames part of the flesh of the sea horse that remained unconsumed, and ate it voraciously. The crew of the ship threw great lumps of the flesh they had still left upon the ice, which the old bear fetched away singly, laying every piece before the cubs as she brought it, and, dividing it, gave each a share, reserving but a small portion to herself. As she was fetching away the last piece, they levelled their muskets at the cubs, and shot them both dead, at the same time wounding the dam in her retreat, but not mortally. It would have drawn tears of pity from any but the most unfeeling, to have marked the affectionate concern expressed by this poor animal, in the dying moments of her expiring young. Though she was sorely wounded, and could but just crawl to the place where they lay, she carried the lump of flesh she had just fetched away, as she had done the others, tore it in pieces, and laid it down before them. When she saw they refused to eat, she laid her paws first upon the one, then upon the other, and endeavoured to raise them up, making, at the same time, the most pitiable moans. Finding she could not stir them, she went off, and, when she got to some distance, looked back, and moaned; and that not availing to entice them away, she returned, and, smelling round them, began to lick their wounds. She went off a second time, as before, and, having crawled a few paces, looked again behind her, and for some time stood moaning. But still, her cubs not rising to follow, she re-

turned to them anew, and, with signs of inexpressible fondness, went round, pawing them successively. Finding, at last, that they were cold and lifeless, she raised her head towards the ship, and growled a curse upon the destroyers, which they returned with a volley of musket balls. She fell between her cubs, and died licking their wounds.

The polar bears are animals of tremendous fierceness. Brentz, in his voyage in search of the north-east passage to China, had the most horrid proofs of their ferocity in the island of Nova Zembla, where they attacked his seamen, seizing them in their mouth, carrying them off with the utmost ease, and devouring them even in sight of their comrades.



THE CINNAMON BEAR.

This species or variety, for it is yet undetermined whether it is the one or the other, is also called the Chocolate Bear. The pair in the London Zoological Gardens were presented by the Hudson's Bay Company. They are generally considered to be a variety of the American Black Bear, and have an equally extensive range through North America, inhabiting the open parts, while the Black Bear is usually found in the forests. In a wild state they are more vicious and dangerous than the Black Bear, yet in confinement are tractable and easily tamed.



THE SLOTH BEAR.

PROCHILUS LABIATUS.—Illiger.

This animal, which is now proved to be a species of Bear, was erroneously placed by Pennant and other naturalists among the sloths, under the name of the Ursine Sloth. The error arose from Pennant and Shaw having, in the year 1790, seen an old individual which had lost the inner teeth, and, founding their opinion upon this accident, they pronounced the animal to be a sloth, and called it *Bradypus Ursinus.* M. Buchanan, in his Journey from Madras through the countries of Mysore, &c. was the first to announce that this pretended Sloth was no other than a bear of the Indian mountains; and the largest of three bears found in India, the two others being the Malay and the Thibet.

M. M. A. Duvaucel describes the Sloth Bear "with a thick and still most singularly elongated muzzle. The head is small, and the ears are large; but the hair on the muzzle, at first smooth and even, grows suddenly rough around the head as far as the height of the ears, and completely buries them under a thick fur, augmenting considerably the size of the head. The cartilage of the nose

consists of a large plate, almost plane, and possessing great mobility. The end of the lower lip goes beyond the upper, and gives to the animal a physiognomy of stupid animation. Its limbs are elevated, its body long, and its motions easy. These characters are more or less disguised by the length of the hair, which, in old individuals, almost touches the ground. This Bear, which appears more docile, more intelligent, and more common in Bengal than the other species, is educated and exhibited by the jugglers for the amusement of the people. It is often met in the mountains of Sylhet, in the environs of inhabited places." It belongs to the mountainous parts of India only, and is said to retire into caverns and holes, which it excavates by means of its long claws, and to feed principally on white ants, fruits, and honey; but as little of its habits are known with any certainty, it may rationally be presumed, on viewing the teeth, that it is as carnivorous as Bears in general.

The London Zoological Society have in the gardens two specimens of the Sloth Bear, a male and female: we refer to them as Sloth Bears, since they are so designated in the Society's Catalogue; though we agree with the editors of Cuvier's Animal Kingdom, that to call the above species the thick-lipped Bear would be to get rid of all association with the sloth, which, as we have shown, belongs to another genus.

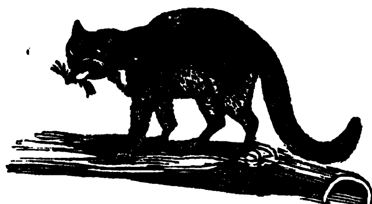
We may here observe that the uses of Menageries, such as that of the Zoological Society, can scarcely be better illustrated than in quoting the erroneous notions that were so long entertained of the habits and economy of the sloth, of whose true history we can know but little, unless we see him in his natural condition, or so far at liberty as is seen in the abodes of some animals in the Zoological Gardens. A sloth pent up in a cage appears

in perpetual pain, but place him on a tree, and his sharp and long curved claws will enable him to travel from branch to branch; on a smooth floor he is in misery. Again, the application of the term *Sloth* to these animals is not, strictly speaking, correct: their extraordinary slowness of motion is not the effect of indolence or *sloth*, but is an essential part of their nature, and it is no more in their power to accelerate their movements than it is permitted to the hare to creep, or the stag to crawl; it is in vain to urge, to stimulate, or to strike them; nothing in the world can quicken them. It has been calculated that one of these animals would employ an entire day to make fifty steps; from this it follows, that, supposing it to proceed without interruption, it would take nearly a month to travel a single mile.



## GENUS PROCYON.—STORR.

*Generic character.* Incisory teeth $\frac{6}{8}$; canine teeth $\frac{1\,1}{1\,1}$, large and compressed; grinders $\frac{6\,6}{6\,6}$, the three first pointed, the three posterior tuberculous; body rather slight; feet with five toes; nails sharp; muzzle pointed; ears small; tail long and pointed, with six ventral teats.



THE RACOON.

PROCYON LOTOR.—Cuvier.

The racoon is of a grayish colour, with a head shaped somewhat like that of a fox, being broad betwixt the ears, and very sharp at the muzzle. The face is white, and the eyes large, surrounded with a black band, from which a dusky stripe runs along the nose. The tail is long and bushy, with a number of black annulations. The back is considerably arched, and the fore legs a good deal longer than the hinder ones. From the nose to the tail, the racoon measures about two feet, the tail itself being about a foot in length.

The walk of the racoon is singular, being somewhat oblique. He is an active and lively animal; an excellent climber of trees, in which the sharpness of his claws greatly aids him; and he will even venture to the extremity of slender branches. He is a good tempered animal, and, consequently, easily tamed; but his habit of prying into every thing renders him rather troublesome, for he is in constant motion, and examining every object within his reach. He generally sits on his hinder parts when feeding, conveying all his food to his mouth with his fore paws. He will eat almost every kind of food, but is particularly fond of sweetmeats, and will indulge

in spirituous liquors even to drunkenness. He feeds chiefly at night, in a wild state, and sleeps during the day.

The fur of the racoon is much valued by hatters, being next, in fineness, to that of the beaver; it is also used as linings to dresses; gloves, and even the upper leather of shoes, are made from its skin when dressed. Its flesh is considered a delicacy by the negroes. It lives in the hollows of trees; and is frequent in North America.

### *Crab Fishers.*

Brickell gives an interesting account, in his *History of North Carolina*, of the wonderful cunning manifested by the racoon. It is fond of crabs, and, when in quest of them, will take its station by a swamp, and hang its tail over into the water, which the crabs mistake for food, and lay hold of it; as soon as the racoon feels them pinch, he pulls up his tail with a sudden jerk, and they generally quit their hold upon being removed from the water. The racoon instantly seizes the crabs in his mouth, removes them to a distance from the water, and greedily devours his prey. He is very careful how he takes them up, which he always does from behind, holding them transversely, in order to prevent them catching his mouth with their nippers.



## Genus TAXUS.—Geoffroy.

*Generic character.* Incisory teeth $\frac{6}{6}$; canine teeth $\frac{1-1}{1-1}$; grinders $\frac{5-5}{6-6}$; total 38; the first grinder very small, the second and third acute, the fourth cutting on the outer side, and the fifth large and tuberculous. The body is

thick; legs very short; feet with five toes and strong nails; muzzle moderately long; ears short and round; eyes small; tail very short, with a pouch under it, containing a fetid secretion.



THE BADGER.

Taxus Vulgaris.—Desmarest.

The ordinary length of the badger is about two feet and a half, and of the tail six inches. The body and legs are thick, the latter being very short; the claws of the fore feet long, strong, and straight, which fit it for burrowing. The ears and eyes are small,—the latter placed in a black stripe, which begins behind the ears, and runs tapering to the nose; and the muzzle pointed; the colour of the skin is uniform gray on the back, sides, and tail; the lower parts and limbs entirely black; the hair is of a coarse and bristly texture,—painters' brushes are made of it.

In walking, the badger treads on its heel, like the bear; and, being so low on its legs, the belly nearly touches the ground.

The skin of the badger is dressed with the hair on, and manufactured into pistol cases. Its flesh is eaten, and the hind quarters frequently converted into hams, which some consider superior in their flavour to bacon.

Although the badger, by nature, is furnished with formidable weapons of offence, and possesses great strength, yet it is harmless and inoffensive, and never uses these but when acting on the defensive, for it is never known to assail another animal.

The principal food of the badger is roots, fruits, grass, insects, and frogs. It sleeps during day in its burrow, which is always formed in some sequestered place.

Few creatures, when captured by man, are subjected to such cruel and barbarous treatment, for it is kept only to be baited by dogs. In this savage sport, the unfortunate brute is sometimes tormented and torn from morning to night. Humanity shudders at such cruelty; and it is only to be wondered, that, in the present enlightened age, there are to be met with men brutal enough to take pleasure in such sport, and that the laws should permit it. With a harmless nature, few animals can defend themselves with such obstinacy, or inflict keener wounds on their adversaries; and it is only a dog of great courage and strength that can draw one from its hole. The thickness of its skin, which is loose, enables it easily to turn round upon its assailants, and wound them in the tenderest parts. In this manner, being singularly endowed by nature, this animal is able to resist repeated attacks, both of men and dogs, from all quarters, till, being overpowered with numbers, and enfeebled by wounds, it is at last obliged to submit.

Badgers live in pairs, and produce, in the spring of the year, from four to five young ones.



## Genus GULO.—Cuvier.

*Generic character.* Incisory teeth $\frac{6}{6}$; canine teeth $\frac{1\text{-}1}{1\text{-}1}$; grinders $\frac{4\text{-}4}{6\text{-}6}$ or $\frac{5\text{-}5}{6\text{-}6}$; total 36 or 38; the three first

grinders in the upper jaw, and the four in the lower jaw, small, succeeded by a larger carnivorous, or trenchant tooth, and small tuberculous teeth at the back; the body is low; the head moderately elongated; the ears short and round; the tail short; feet with five toes, armed with crooked nails.

## THE WOLVERENE; OR, GLUTTON.

GULO ARCTICUS.—Desmarest.

The wolverene is about twenty-six inches in length, from the tip of the nose to the insertion of the tail, which is eight inches long; the body is rather thick; and the fur of a deep chestnut colour on the sides; the back, legs, and face are black; the legs are strong, short, and thick, the fore ones measuring only eleven inches, and the hind ones twelve; it has five toes on each foot, armed with long sharp claws, the middle ones of the fore feet being an inch and a half in length; the soles of the feet are covered with hair.

This animal is an inhabitant of the countries bordering on the Northern Ocean, both in Europe and Asia: it is also common in Canada, as far north as Hudson's Bay.

The wolverene is rather a slow paced animal; but its great strength, sagacity, and acute sense of smell, amply compensate this defect. It is said to be a very fierce and savage creature; but the acute Dr. Richardson says that, in this respect, accounts have been considerably exaggerated. He adds, however, that it is exceedingly troublesome to the hunters, not only greedily devouring their store of provisions, but also plundering the baits of their traps, and even the game they take in them. They frequently traverse and rob a district of some miles in extent.

This quadruped is said to live a life of endless rapine. It lurks in the branches of trees, in order to surprise deer and other animals that pass under them. The stag and rein-deer frequently become its victims. It is such an enemy to the beaver, that in America it bears the name of the beaver-eater. It is an animal of great courage, and so obstinately resolute, that it has been known to seize upon a deer which an Indian had killed, and refused to yield it up; and has frequently fallen a victim to its greediness and allowed itself to be shot, rather than render up the carcass. The great strength and sharpness of the claws of the wolverene, make it a formidable enemy even to the wolf and bear, and it has been known to deprive the former of his prey. They are very destructive to the fox, by entering their burrows, which, if not large enough to admit them, they easily widen, by means of their strong claws, and devour both mother and cubs.

Like the badger, the wolverenes live in burrows under ground, which they dig for themselves.

### *Proof of Strength and Cunning.*

As a proof of the surprising strength and cunning of the wolverene, there was one at Churchill, on Hudson's Bay, about twenty years since, that overset the greatest part of a pile of wood, which measured upwards of seventy yards round, and contained a whole winter's firing, to get at some provisions that had been hidden there by the Company's servants when going to the factory to spend the Christmas holidays. This animal had for many weeks been lurking about the neighbourhood of their tent, and had committed many depredations on the game caught in their traps and snares, as well as eaten many of the foxes that were killed by guns set for the purpose; but he was too cunning either to take gun or trap himself. The peo-

ple thought they had adopted the most effectual method to secure their provisions, by tying them up in bundles, and placing them on the top of the wood pile. They could not suppose the wolverene would even have found out where they were, and, much less, that he could get at them if he did make the discovery. To their astonishment, however, when they returned, they found the greatest part of the pile thrown down, notwithstanding some of the trees with which it was constructed were as much as two men could carry. The wood was very much scattered about; and it was imagined that, in the animal's attempting to carry off the booty, some of the small parcels of provisions had fallen down into the heart of the pile, and, sooner than lose half his prize, he was at the trouble of doing this. The bags of flour, oat meal, and pease, though of no use to him, he tore all to pieces, and scattered the contents about on the snow; but every bit of animal food, consisting of beef, pork, bacon, venison, salted geese, and partridges, in considerable quantities, he carried away.



## Genus MUSTELA.—Linnæus.

*Generic character.* Incisory teeth $\frac{6}{6}$; canine teeth $\frac{1\cdot1}{1\cdot1}$; cheek teeth $\frac{4\cdot4}{5\cdot5}$, or $\frac{5\cdot5}{6\cdot6}$; the head small and oval; the ears short and round; the body very long; legs short for the size of the animal; feet with few toes, armed with sharp hooked claws, without any anal pouch, but with a small gland, which secretes an unguent of an extremely fetid odour.

This genus is subdivided into three subgenera, viz: *Putorius*, *Lorilles*, and *Martes*.

## SUBGENUS I.—PUTORIUS.—CUVIER.

With two false grinders above, and three below; and wanting tubercles, or the great under canine teeth; the muzzle short; and they emit a fetid smell.

### THE POLECAT; OR, FOUMART.

MUSTELA PUTORIUS.—Linnæus.

The length of the polecat, from the point of the nose to the insertion of the tail, is from seventeen to eighteen inches; and the tail, which is short and bushy, measures about three inches; the ears are short, round, and tipped with white; the usual colour is of a deep chocolate, sometimes nearly approaching to black; the sides are covered with hair of two colours, the tips being dark like the rest of the body, and the middle of a tawny colour.

The foumart is active and nimble; it runs very fast, with a succession of leaps, which is the only way it can make rapid progress, but, owing to the shortness of its legs, when walking, the belly appears almost to touch the ground. It can creep up the side of a wall with much agility. In preparing to leap, it arches its back, and then makes a spring with much force.

Woods, or thick brakes, are the retreats of this animal, where it burrows under ground, forming a shallow retreat, from two to three yards in length, generally terminating in a round chamber, among the roots of trees. It seldom leaves its hole during the day, night being the time it goes in search of prey. It is very destructive to poultry, pigeons, young rabbits, and game of all kinds. Its thirst for blood is so excessive, that it will kill many

more than it can eat. A few pairs of them are sufficient to desolate a whole warren.

During winter, the foumart frequents houses, barns, and other places connected with farm establishments, feeding on poultry, eggs, and milk.

The female polecat brings forth from three to six young ones in the beginning of summer. This usually takes place in the immediate neighbourhood of some farm; and they early accustom them to the use of animal food.

The skin of the polecat, when properly manufactured, is esteemed a fine fur, and especially when taken in the winter. It is, however, a difficult process to free them from their fetid and offensive odour.

## THE WEASEL.

MUSTELA VULGARIS.—Linnæus.

The length of the weasel does not exceed seven inches from the nose to the tail, which is only two inches and a half long, and ends in a point; the height of the animal is little more than two inches and a half; so that its length is nearly four times its height.

The usual colour of the weasel is pale reddish brown on the back, sides, and legs; the throat and belly are white; on each side, under the corners of the mouth, is a brown spot; its ears are small and rounded; and its eyes small, black, and sparkling; it has long whiskers like a cat; and its teeth are exceeding sharp, so that it bites with great keenness.

The weasel is a lively and active animal, and common in America and Britain; and, being of a fierce and bold disposition, proves exceedingly destructive to our farm yards and warrens. It devours eggs with much voracity.

In this operation, it makes a small hole in the end of the egg, and sucks the contents out, leaving the shell entire: whereas, a rat usually drags the egg from the nest, and either breaks it to pieces, or makes a large hole in it; from which distinction, the farmer may readily guess which of these was the depredator.

Although the weasel is but a slender animal, yet it is more than a match for the largest rat, to which species he is a mortal enemy, and frequently proves extremely useful to the farmer, in ridding his stack-yards and barns of these destructive vermin, as well as mice; on which account its company is often courted by the farmer. It is even more useful than the cat in destroying rats, for, from the slenderness of its body, it can pursue them into their holes, where they are soon killed. It is a destructive enemy to pigeons, as it creeps into the holes of a dovecot in the evening, and surprises its prey while they are asleep; and, from the peculiar construction of its body, there are few situations it is incapable of reaching, for it can clamber up an almost perpendicular wall.

It is said that the weasel prefers meat which has become putrid to that which has been just killed. Buffon gives an illustration of its attachment to putrid substances: He says, that a weasel, with three young ones, were taken out of the carcass of a wolf that had been hung on a tree by the hind feet. The wolf was almost entirely putrefied; and the weasel had made a nest of leaves and herbage for her young in the thorax of the corrupted carcass.

The female brings forth in spring, and usually produces four or five at a litter. The young ones are blind at birth, but soon receive their sight, and are not long of being able to follow the dam in her predatory excursions.

The weasel is of a wild and intractable nature, being

exceedingly difficult to tame. When kept in a cage, it seems in a perpetual state of agitation—is terrified at the sight of all who approach to look at it, and generally endeavours to hide itself behind the straw, or other substances which may be at the bottom of its cage. There are, however, instances on record of weasels being completely domesticated.

### *The Weasel and Eagle.*

An eagle having seized a weasel, mounted into the air with its prey, and was soon after observed to exhibit symptoms of distress. Its little enemy had extricated itself so far, as to be able to bite the eagle in the throat, and kept its hold with such pertinacity, that he brought the eagle to the ground; and thus the weasel was afforded an opportunity of escaping.

### *Unprovoked Attack.*

In January, 1818, a labourer in the parish of Glencairn, Dumfriesshire, was suddenly attacked by six weasels, which rushed upon him from an old dyke in the field where he was at work. The man, alarmed at such a furious onset, instantly betook himself to flight, but he soon found he was closely pursued; and, although he had about him a large horse-whip, with which he endeavoured, by several back-handed strokes, to stop them, yet, so eager was their pursuit, that he was on the point of being seized by the throat, when he luckily noticed at some distance the fallen branch of a tree, which he made for, and, hastily snatching it up, manfully rallied upon his enemies; and, as fortune favours the brave, he had such success, that he killed three of them, and put the remaining three to flight. My readers may have some idea of the man's danger, when it is known, that two of them are a match for a dog.

## THE STOAT.

MUSTELA ERMINEA.—Linnæus.

There is little difference in the shape of this animal from that of the weasel, and they have, consequently, been frequently described under the same denomination.

The length of the stoat is about ten inches, exclusive of the tail, which is five inches and a half; it is very hairy, with a black tip; the edges of the ears, and ends of the toes, are yellowish white; in other respects, it perfectly resembles the weasel, both in colour and form, except in winter, when, in the northern parts of Europe, the fur changes to a pure white, except the tip of the tail, which retains its blackness through all seasons and climates. In its winter change, it has received the name of the *ermine;* and, in this condition, is much sought for, on account of the high value of its fur, which has been that worn by royalty from remote times.

The stoat abounds in Norway, Lapland, Russia, and other northern latitudes, and forms a principal article of commerce in these States. It is found even so far north as Kamschatka and Siberia, where the hunters take it in traps, baited with flesh. In Norway it is their practice, either to shoot the stoats with blunt arrows, or they are taken by traps made with two flat stones, one being propped up with a stick, to which is attached a baited string; and, as soon as the animal begins to nibble, the stone falls down, and crushes it to death. In Britain, they also, sometimes, change to white in winter; but their skins are of little value, compared to those in northern Europe, having neither the same closeness nor whiteness of fur. The skins are sold, in the districts where they are caught, from two to three pounds sterling the hundred.

*Stoat and Water Rat.*

A singular circumstance was observed by a friend of the present vicar of Liskeard, in Cornwall, in August, 1829: A stoat was in hot pursuit of a water rat; which latter took the water, where he, doubtlessly, expected to be safe from his enemy; the stoat, however, followed his prey across the narrow pond; but lost it, at last, from the rat getting into a hole.

*The Little Conqueror.*

A group of haymakers, while busy at their work, on Chapelhope meadow, at the upper end of St. Mary's Loch, (or rather of the Loch of the Lowes, which is separated from it by a narrow neck of land,) saw an eagle rising above the steep mountains that enclose the narrow valley. The eagle himself was, indeed, no unusual sight; but there is something so imposing and majestic in the flight of this noble bird, while he soars upwards in spiral circles, that it fascinates the attention of most people.* But the spectators were soon aware of something peculiar in the flight of the bird they were observing: he used his wings violently, and the strokes were often repeated, as if he had been alarmed and hurried by unusual agitation; and they noticed, at the same time, that he wheeled in circles that seemed constantly decreasing, while his ascent was proportionably rapid. The now idle haymakers drew together in close consultation on the singularity of the case, and continued to fix their attention on the seemingly distressed eagle, who rose perpendicularly, until he was nearly out of sight in the concave recess of

* In general, the motion of the wings is hardly perceptible; an impetus is given, but the strokes are "few and far between," and he seems impelled by some invisible power.

the blue ether. In a short time, however, they were all convinced that he was again seeking the earth, evidently not as he ascended, in spiral curves; his descent was like something falling, and with great rapidity. As he approached the ground, they plainly perceived that he was tumbling like a shot bird; the convulsive fluttering of his wide and powerful pinions but slightly impeding the rapidity of his descent, until he fell at a small distance from the men and boys of the party, who had naturally run forward, highly excited by the strange occurrence. A large black-tailed stoat ran from the body as they came near, turned with the usual *nonchalance* and impudence of the tribe, stood up upon its hind legs, crossed its fore paws over its nose, and surveyed its enemies a moment or two, (as they frequently do, when no dog is near,) and bounded into a willow bush. The king of the air was dead; and, what was more surprising, he was covered with his own blood; and, upon farther examination, they found his throat cut. It was clear that the stoat must have been the regicide.

## THE FERRET.

### Mustela Furo.—Linnæus.

The ferret is somewhat smaller than the polecat; the fur is yellowish; the eyes red; in other respects, it bears a strong resemblance to the polecat, from which, however, it is very distinct. The ferret being a native of Africa, is known to us only in a domesticated state. It was first brought from that continent to Spain, according to Strabo; and was used to reduce the number of rabbits which abounded in that country. It has, subsequently, been employed for the like purpose in Britain, as well as

in other countries of Europe. It, however, has never been completely brought to stand the cold of a temperate latitude, as it requires the utmost care, and great warmth, to preserve it. The ordinary method of keeping the ferret, is in a box, amongst wool, of which it forms for itself a comfortable bed.

The ferret generally sleeps during the day, and feeds at night. In a domesticated state, it is usually fed on bread and milk, of which it eats eagerly. Flesh is considered improper for the indolent lives which ferrets are taught to lead.

In a domesticated state, the ferret breeds twice a year. The female goes with young six weeks, and brings forth from five to eight at a birth.

Warreners sometimes cross the breed with the polecat, and the offspring, in some instances, are superior to the ferrets, in point of ferocity. The ferret has an instinctive antipathy to the rabbit: it is said, if a dead one be presented to a young ferret, which has never seen one before, it seizes it; if a live one be set before it, still greater marks of eagerness are shown; for it lays hold of its neck, winds itself round it, and will not quit its gripe, but continues to suck the blood, till completely satiated. While using the ferret to drive rabbits from their burrows, they must be muzzled, otherwise they would fix on them, gorge themselves with their blood, and then fall asleep. Instances have been known, of their disengaging themselves of their muzzle, in which case, they remained in the holes, and were not to be got out, but by digging for them, or, if too deep, smoking them out. Both these methods have been resorted to, without effect; and the ferret has kept his retreat good for the summer, and lived by preying on the rabbits;

but, when the winter sets in, they either perish from cold, or leave the hole, and are then easily retaken.

The ferret is also a great enemy to rats, and will not suffer one to remain alive, where it is allowed to go in search of them.

Although easily tamed, it seldom evinces any attachment, and is very easily irritated. They emit a very fetid odour, like all their tribe.

### *Singular Ferocity.*

A man, of the name of Isles, a bargeman, finding himself much incommoded, by the repeated mischief done in his barge by rats, procured a ferret to destroy them. The ferret remaining away a considerable time, he thought it was devouring some rats that it had killed, and went to sleep, but was awakened early next morning by the ferret, who was commencing a regular attack upon him. The animal had seized him near his eyebrow; and the man, after endeavouring in vain to shake him off, at length severed the body from the head with a knife,—the latter still sticking so fast, as to be with difficulty removed.

## THE SABLE.

MUSTELA ZIBELLINA.—Linnæus.

The sable is about eighteen inches in length. It resembles the martin in its form, being fully longer than the polecat, in proportion to its thickness.

It is a native of Siberia, Kamschatka, and some of the islands which lie between that country and Japan, and also of Lapland, living in holes, by the banks of rivers, and under the roots of trees. Its nest consists of moss, small twigs, and grass.

This animal does not appear to be so predaceous as its congeners; for its chief food, in winter, consists of berries of different kinds. In summer, however, before these ripen, its necessities force it to prey upon hares, weasels, ermines, and other small animals.

The sable is extremely vivacious, and leaps with great nimbleness from tree to tree, after small birds and squirrels.

The female brings forth in the spring, and produces from three to four at a birth.

The sable fur is dark brown, whitish on the head, and gray on the throat. A great quality in it is, that the hair turns, with equal ease, to either side. The darker the colour, it is the more valuable; and few skins are in higher estimation than that of this animal. One of these, although only about four inches in breadth, has been sometimes valued as high as fifteen pounds. The general price, however, is from one pound to ten, according to the quality. The bellies of sables, about two fingers in breadth, are sold separately from the upper parts, and generally in pairs, which are tied together in bundles of forty pieces, and bring from one to two pounds each bundle. The tails are also a separate article of commerce, and sell from four to eight pounds a-hundred.

The time of hunting the sable in Siberia and other countries, is from November to February, during which period the skins are in the highest perfection. Those taken at any other time of the year are far inferior, on account of the irregularity of the length in the hair; and, consequently, bring lower prices.

Instances have occurred, where the skins were of a snowy whiteness; but these are exceedingly rare, and sell high, as curiosities.

## GENUS MEPHITIS.—CUVIER.

*Generic character.* Incisory teeth $\frac{6}{6}$; canine teeth $\frac{1\,1}{1\,1}$; grinders $\frac{4\,4}{5\,5}$; total 34; the great carnivorous tooth provided with two tubercles on the inner side; the posterior tooth tuberculated, and very long and large; the toes of the feet separated, and furnished with long nails, formed for digging; the heel very little raised in walking; the palm and heel hairy; the tail long and bushy; in some of the species none.

### THE SKUNK.

MEPHITIS AMERICANUS.—Desmarest.

The length of the skunk, from the nose to the insertion of the tail, is about eighteen inches, and the tail itself about fourteen inches. Its nose is long and slender, extending a considerable way beyond the lower jaw. Its ears are large, but short and rounded. A white stripe reaches from the nose over the forehead, and along the back, where it is intersected by a small line of black, commencing at the tail, and extending upwards along the middle of the back. Its sides, belly, and legs, are black. Its hair long and flowing, especially on the tail, which is thick, bushy, and very long.

The skunk is a native of Peru, Brazil, and most parts of North and South America; and is found as far north as Canada. It is remarkable, on account of the intolerable and almost suffocating fetor of a vapour that it emits, when pursued or irritated. This odour may be smelt at a great distance; and so abominable and powerful are its effects, that provisions once touched with it, are irreco-

verable. *Cloths have been washed, soaked for days in water, dried in the sun, and still retained this fetid smell* for many weeks.

Professor Kalm mentions, that a skunk was once perceived by a servant in a cellar. She attacked and killed it, without thinking of the effluvia. The place was instantly filled with a horrid stench, which so affected the thoughtless woman, that she was taken seriously ill, in which state she continued for some considerable time. Few dogs will attack the skunk, on account of this fetor, which seems its best defence against its enemies; but when dogs are trained to hunt it, which is sometimes the case, they are forced to relieve themselves, by occasionally thrusting their noses into the earth. Cattle that come within the influence of this vapour, are so disgusted and alarmed, that they set up a horrid bellowing.

The skunk is sometimes domesticated; and, strange as it may appear, is never known to emit this fetid vapour in a tame state. Skunks are naturally bold animals, and do not hesitate to enter farm establishments, and even houses, in search of eggs and other food.



## Genus LUTRA.—Ray.

*Generic character.* Incisory teeth $\frac{6}{6}$; canine teeth $\frac{1\cdot1}{1\cdot1}$; grinders $\frac{5\cdot5}{5\cdot5}$ or $\frac{5\cdot5}{6\cdot6}$; total 36 or 38; the lower great carnivorous tooth, with two points on its outer side; the head large and flattened; the ears short; the body long; tail long, flattened horizontally, and tapering; legs short; feet webbed; nails crooked and sharp.



## THE OTTER.

Lutra Vulgaris.—Desmarest.

The body of the otter is long, measuring usually about two feet, besides the tail, which is nearly sixteen inches; the legs are short, strong, muscular, and so placed, as to be capable of being brought into a line with the body, and performing the functions of fins. On each foot are five toes, which are webbed, and furnished with strong sharp nails. The eyes are large, brilliant, and so situated in the head, that the animal can see any object that is above it, which adds to the singularity of its aspect. The fur of the otter is deep blackish brown, with two small light spots on each side of the nose, and another under the chin.

The otter is a native of Britain, the whole continent of Europe, and America. It makes its habitation on the banks of rivers, where it burrows to some depth. Its principal food being fish, it is a semi-amphibious animal, living almost constantly in the water. The burrow is constructed with great sagacity, the entrance of the hole being invariably under water, inclining upwards to the surface of the earth; and before reaching the top, he constructs several lodges, at different heights, to which he may retire, in the event of floods; for, although so much accustomed to a watery element, no animal is more parti-

cular in lying quite dry. At the top of the uppermost of these cells, he opens a very small orifice, for the admission of air; and the more effectually to conceal this opening, it is generally in the middle of a thick bush of willows, or other shrubs.

During winter, in Canada, otters are in the habit of travelling to a considerable distance from rivers, but for what purpose has not been ascertained. In these cases, the Indians track them in the snow, and kill them with clubs, which they carry. The otter is a slow-paced animal; and, if closely pursued, before being overtaken, when the snow happens to be light and deep, he immediately dives a considerable way under it: but this seldom avails him; for his crafty pursuers can easily trace him by his motions, in passing through the snow.

The otter is naturally an animal of a ferocious disposition; but, nevertheless, when taken young, and properly treated, it can easily be rendered quite tame, and may be taught to catch fish, and fetch them to its master.

In the *Prædium Rusticum* of Vaniere, mention is made of tame otters being employed in fishing, in the following passage, translated from that author:

> Should chance within this dark recess betray
> The tender young, bear quick the prize away.
> Tamed by thy care, the useful brood shall join
> The watery chase, and add their toils to thine;
> From each close-lurking hole shall force away,
> And drive within their nets, the silver prey:
> As the taught hound the timid stag subdues,
> And o'er the dewy plain the panting hare pursues.

The flesh of the otter is extremely rank and fishy; on which account, the Romish Church permitted it to be eaten on meagre days. We are informed by Pennant, that, when on his travels, he once entered the kitchen of the Carthusian convent, near Dijon, in France, where he saw

an otter cooking for the religious of that rigid order, who, by their rules, were bound to perpetual abstinence from animal food.

When the otter has caught a fish, he carries it to the banks of the river, and devours the head and upper parts of the body, leaving the rest untouched; so that it requires a considerable quantity to allay his hunger. He pursues his prey, generally, from the bottom upwards, and takes them by surprise, which he can easily do, from the way in which his eyes are situated.

The female brings forth in the spring, from four to five at a birth. Their parental affection is so powerful, that they will frequently suffer themselves to be killed rather than quit their progeny; and this is often the occasion of their losing their lives, when they might otherwise have escaped.

### *Expert Fisher.*

James Campbell, near Inverness, procured a young otter, which he brought up and tamed. It would follow him wherever he chose; and, if called on by its name, would immediately obey. When apprehensive of danger from dogs, it sought the protection of its master, and would endeavour to spring into his arms for greater security. It was frequently employed in catching fish, and would, sometimes, take eight or ten salmon in a day. If not prevented, it always made an attempt to break the fish behind the anal fin, which is next the tail; and, as soon as one was taken away, it always dived in pursuit of more. It was equally dexterous at sea fishing, and took great numbers of young cod, and other fish, there. When tired, it would refuse to fish any longer, and was then rewarded with as much as it could devour. Having satisfied its appetite, it always coiled itself round, and fell asleep; in which state it was generally carried home.

## GENUS CANIS.—LINNÆUS.

*Generic character.* Incisory teeth $\frac{6}{6}$; canine teeth $\frac{1\cdot1}{1\cdot1}$; grinders $\frac{6\cdot6}{7\cdot7}$; total 42; the three first grinders in the upper jaw, and the four in the lower jaw, are small and edged; they are termed false molars, or grinders; the great carnivorous tooth above bicuspid, with a small tubercle on the inner side, with two tuberculous teeth behind each of the carnivorous ones; muzzle elongated, shorter in some of the tame species and varieties; tongue soft, by which organ they perspire; ears, in the wild species, erect, in the tame ones usually pendulous; fore feet with five toes, hind feet with four toes; teats both inguinal and ventral.



THE DOG.

CANIS FAMILIARIS.

Of all animals known to mankind, the dog is the most diversified in form, size, properties, intellect, and propensities; agreeing only in one peculiarity,—his constant attachment and fidelity to his master.

The oldest writers mention the dog as an associate of man; he is spoken of by Aristotle, Albertus, Pliny, Blondus, Galen, Artemidorus, Arnobius, and others.

There are many fabulous stories mentioned of dogs by the ancient writers, imputing to them extraordinary and supernatural qualifications. We are told by Pliny, that before Tarquinius was driven out of his kingdom it was presaged by the speaking of a dog and the barking of a serpent. We are informed by Artemidorus, that Cæsar's death was foretold by the howling voices of owls, the weeping drops of the ivy tree, and the continual barking of dogs.

The dog, from the earliest ages, has been the companion of man in all countries; and wherever the human being has extended his discoveries and dominion, he has almost universally been accompanied by this truly-useful and intelligent animal. His alertness in discovering an enemy, his caution, perseverance, and fidelity, have ever rendered him worthy of the friendship and confidence of man.

By domesticating this intrepid, honest, faithful, sagacious, and affectionate animal, he has secured the most necessary and certain means of conquest and dominion over all other creatures. By the exquisite irritability of his olfactory nerves, the dog is enabled to pursue steadily and unerringly all other animals; he can trace with exactness every winding and turning, till, by his strength and perseverance, he at last overtakes and speedily overcomes and destroys them; and the fury of his natural hatred is abated by the blood of the animal.

The subjugation and domestication of the dog by man may be considered the most useful conquest he ever made. In the refined state of society in which we now live this is not so apparent; but a little observation and

reflection on the condition of such of our fellow-creatures as are still in barbarism, will easily satisfy us, that we owe originally much of our progress in civilization to the powers and energies of the dog.

It appears that the dog, in all its innumerable varieties, shapes, habits, appetites, and propensities, and in whatever country he inhabits, seems to be but *one species*, under different modifications of form, occasioned by the variety of climates in which he has been produced. When we see the varieties in man himself, from the influence of climate, it is easy to conceive how an inferior animal may undergo still greater changes. We find that both the extremes of heat and cold have the effect of altering the human species; that as we approach both poles, man diminishes in stature; and that it is in the more temperate regions where he is found most perfect, not only in physical symmetry and power, but also in mental capacity. The same influence exerts itself on dogs.

It is a well known fact, that dogs will seldom or never bite an infant, even though beaten or abused by it. We have witnessed innumerable examples of this.

The dog is in general sensible of an error; and, if caught in one, will slink away with his tail hanging down, as if conscious of guilt; in which case he will retreat from a stranger as soon as from his master.

The dog, possessed of beauty and strength in his formation, is also extremely swift, and, from the capacity of his chest, can continue the chase for a very long time without being worn out; besides, his sense of smelling, which he so eminently possesses, enables him to pursue all other animals with nearly unerring certainty. He seems to be endowed with a natural aversion to almost every other animal; yet he is so pliable in his nature, and, like man himself, so much a creature of habit, that his natu-

ral antipathies can easily be overcome. The natural hatred of the dog to the cat is well known; yet we have innumerable instances of their occupying the same couch in perfect harmony, and even with a strong attachment for each other.

The dog is perfectly acquainted with all the actions and movements of those by whom he is surrounded. If his master puts on his hat, he will start up and prepare to follow him; if he is arranging his shooting materials, he evinces, by his restless emotions, his desire to participate with him; if a servant is saddling his horses, he frisks about, with frequent looks of anxiety for the appearance of his master.



THE GREYHOUND.

Greyhounds have been held in high estimation in Great Britain for many centuries. In the time of King John, they were accepted by him as payment in lieu of money for the renewal of grants, fines, and forfeitures due to the crown. There is one fine upon record, paid to this monarch in 1203, which specifies "five hundred merks, ten horses, and ten leashes of greyhounds;" and we find another in 1210 of "one swift horse and six greyhounds."

We derive no information from history why the name of greyhound was applied to this dog. It is in all pro-

bability a corruption of gazehound; as a variety, which seems to have been nearly allied if not in reality the same, was known, in ancient times, to hunt by the eye alone, and not by the scent, as is still the case with the animal under consideration.

The flatness of the forehead in greyhounds is produced by the obliteration of the frontal sinuses from those cavities which are formed at the base of the nose, and which, being immediately connected with the nasal cavities, and covered with the same membranes as they are, increase the sense of smell. This construction of the head in animals is generally accompanied with great slenderness of the legs, as well as of a considerable contraction of the abdomen,—phenomena, which, though yet unexplained, will be found, on examination, to hold good in most cases.

This want of the frontal sinuses, as in greyhounds, probably contributes to an increased development of their other senses. Their sight and hearing are extremely acute; and it is curious that, although equally domesticated with any other of our dogs, yet the conque of their ears is but semi-pendent; notwithstanding which, they have the faculty of elevating and moving them with as much ease as the unreclaimed dogs. They are destitute of the fifth toe, found in the other varieties.

Most authors are of opinion that the greyhound is quite destitute of the olfactory nerves; but this is a most erroneous idea, as I have witnessed many greyhounds not only finding hares by this sense, but even running on the scent before they had a sight of the hare; and I doubt not but many sportsmen have observed the same. It is also not uncommon for the greyhound to trace by the scent when he has lost sight of the hare, by getting into covert. But this, in place of being considered a good

quality by sportsmen, is thought quite the reverse; and in training greyhounds the strictest attention is paid to call them off the moment they lose sight of the hare. It is not therefore from a want of this sense, but in a great measure from education, that the greyhound runs only by the sight. Besides, at the speed at which the hare and greyhound run, it is quite impossible that the dog could be guided by smell.

The greyhound in ancient times was considered as a very valuable present, and more especially by ladies, who looked upon it as a compliment of the most gratifying nature. So far back as the time of King Canute, it was enacted by the forest-laws, that no person under the degree of a gentleman should presume to keep a greyhound: that animal being regarded by the sovereign as a companion peculiarly suited to elevated rank. In the reign of Charles the First, greyhounds were held in high estimation.

### *Extraordinary Race.*

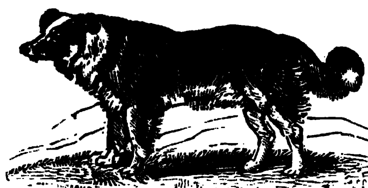
Various have been the opinions upon the difference of speed between a well-bred greyhound and a race-horse if opposed to each other. Wishes had been frequently indulged by the sporting world that some criterion could be adopted by which the superiority of speed could be fairly ascertained, when the following circumstance accidentally took place, and afforded some information upon what had been previously considered a matter of great uncertainty:—In the month of December, 1800, a match was to have been run over Doncaster race-course for one hundred guineas; but one of the horses having been drawn, a mare started alone, that, by running over the ground, she might ensure the wager; when, having proceeded about one mile in the four, she was accompanied by a greyhound bitch, which joined her from the side of

the course. The latter entering eagerly into the competition, continued to race with the mare for the other three miles, keeping nearly head and head, and affording an excellent treat to the field by the energetic exertions of each. At passing the distance post, five to four was betted in favour of the greyhound; when parallel with the stand, it was even betting, and any person might have taken his choice from five to ten; the mare, however, had the advantage by a head at the termination of the course.

*Fatal Exertion.*

To show the ardour and determined exertion made by greyhounds in coursing, we find the following singular anecdote recorded:—A gentleman of Worcester, paying a visit to a friend a few miles distant, took with him a brace of greyhounds for the purpose of a day's coursing. A hare was soon found, which the dogs ran for several miles, and with such speed, as to be very soon out of sight of the party who pursued; but, after a very considerable search, both the dogs and the hare were found dead within a few yards of each other; nor did it appear that the former had caught the hare, as no marks of violence were discovered upon her. A labouring man whom they passed, said he saw the dogs turn her two or three times.





THE SHEPHERD'S DOG.

CANIS DOMESTICUS.—Linnæus.

This dog is distinguished by his upright ears and sharp muzzle, with a great villosity of the under part of the tail, as well as on the back of the fore-legs. The body is rather long, covered with a thick woolly-like hair, and the legs are rather short. There is a singularity in the feet of the shepherd's dog, all of them having one, and some of them two superfluous toes; which appear destitute of muscles, and hang dangling at the hind part of the leg more like an unnatural excrescence than a necessary part of the animal. But, as "Nature has made nothing in vain," these must certainly be destined for some useful purpose with which we are not yet acquainted. These dew-claws are likewise sometimes found in the spaniel, pointer, and cur dog; in the two former they are generally cut off at an early stage, as they are an impediment in covers, and frequently get torn, thereby creating sores, and sometimes rendering the dog unfit for use.

This useful and intelligent animal is one of the most placid, obedient, serene, and grateful members of the canine race. He is ever alive to the slightest indication of his master's wishes, prompt and gratified to execute them; and he seems to enjoy the greatest delight when employed in any kind of useful service. Formed by

nature with an instinctive propensity to industry, he is never more pleased than in exerting his talents for the benefit of man, and in giving constant proofs of his inviolable attachment.

The native calmness, patience, and devoted faithfulness of the shepherd's dog, render him insensible to all attractions beyond the arduous duties connected with the flock under his care. When once properly trained, he not only becomes perfectly acquainted with the extent of his beat, but also with every individual in the flock; he will most correctly select his own, and drive off such as encroach on his limits. This appears the more extraordinary, when we consider the vast extent of mountain country and the numerous flocks committed to the charge of a single shepherd, a duty which he could not possibly perform but for the invaluable services of this sagacious animal. A word or signal from him will direct the dog so as to conduct the flock to any point required, and that signal he will obey with energy and unerring certainty.

### *Life Sacrificed to Trust.*

A shepherd had driven a part of his flock to a neighbouring farm, leaving his dog to watch the remainder during that day and the next night, expecting to revisit them the following morning. Unfortunately, however, when at the fair, the shepherd forgot both his dog and his sheep, and did not return home till the morning of the third day. His first inquiry was, whether his dog had been seen? The answer was, No. "Then he must be dead," replied the shepherd in a tone of anguish, "for I know he was too faithful to desert his charge." He instantly repaired to the heath. The dog had sufficient strength remaining to crawl to his master's feet, and

express his joy at his return, and almost immediately after expired.

### *A Faithful Messenger.*

In the month of February of the very severe winter, 1795, as Mr. Boulstead's son, of Great Salkeld, in Cumberland, was looking after his father's sheep on Great Salkeld Common, not far from Penrith, he had the misfortune to fall and break his leg. He was then three miles from home, with no person within call, and evening very fast approaching. Under the impulse arising from the desperate circumstances of his situation, he folded up one of his gloves in his handkerchief, tied this about the neck of his dog, and ordered him home. Dogs which are trained to an attendance on flocks are known to be under admirable subjection to the commands of their masters, and execute their orders with an intelligence scarcely to be conceived. The animal set off, and arriving at the house, scratched at the door for admittance. The parents were alarmed at his appearance, and concluding, upon taking off and unfolding the handkerchief, that some accident had undoubtedly befallen their son, they instantly set off in search of him. The dog needed no solicitation. Apparently sensible that the chief part of his duty was still to be performed, he led the way, and conducted the anxious parents directly to the spot where their son had fallen. The young man was taken home, and the necessary aid being procured, he was soon in a fair way of recovery; nor was he ever afterwards more pleasingly employed than when reciting this anecdote, so illustrative of the sagacity and fidelity of his constant companion.



THE ESQUIMAUX DOG.

CANIS BOREALIS.

In point of shape and colour the Esquimaux dog very much resembles the Pomeranian breed, which is now nearly extinct in Great Britain. He is, however, considerably larger, but not quite so large as the Newfoundland. The shape of the head is much like that of a wolf, with short erect pricked ears and large fierce eyes; he has immense bone in the fore-legs, with great strength in his loins,—two essential qualities for the purposes of draught, to which this dog is much applied in his native country. The name given to the male dog is Almoniac, that of the female Eljuliac.

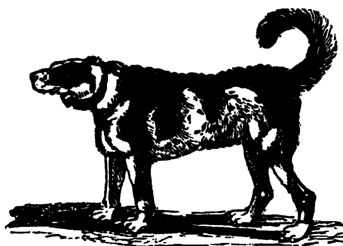
The first pair was brought to England by the discovery ships in 1823. They were much affected by the closeness of the London atmosphere.

These strong and hardy animals draw the country sledges across the snow and ice at the rate of five miles an hour. Nor is this performed with merely a light weight attached to them, for eight in harness will draw three or four persons with ease and speed in the manner just described. On one occasion, an anchor and stock, weighing about a ton, was dragged to its destination by

fifteen or sixteen of them; and, generally speaking, they are fully equal to a hundred weight per head.

The Esquimaux dog is bold and vigorous in the chase. With him the natives hunt the great white polar bear; and some of those which have been brought to England carry the scars of their prowess in this perilous pursuit. They seize their adversary by his long shaggy hair, and worry and detain him till their masters come up with their spears and put an end to the conflict.

The hair of this dog is of two sorts; the one silky, which is thinly scattered; the other woolly, which is extremely thick, fine, and curly, and may be pulled off in flakes from the animal. It is of various colours, tan, gray, reddish-gray, and black. He has white spots over the eyes, on the feet, and tip of the tail, which is spiral, spreading, and curved. He does not bark, but snarls, and howls in a savage manner.



THE NEWFOUNDLAND DOG.

CANIS SENSILIS.

In a state of purity, and uncontaminated by a mixture with any inferior race, this is certainly the noblest of the canine tribe. His great size and strength, and his majestic look, convey to the mind a sort of awe, if not fear, but which is quickly dispelled when we examine the placid

serenity and the mild and expressive intelligence of his countenance, showing at once that ferocity is no part of his disposition.

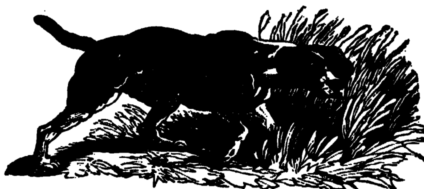
The full-sized Newfoundland dog, from the nose to the end of the tail, measures about six feet and a half, the length of the tail being two feet; from the one fore-foot to the other, over the shoulders, five feet eight inches; girth behind the shoulders, three feet four inches; round the head, across the ears, two feet; round the upper part of the fore-leg, ten inches; length of the head, fourteen inches; and his feet are webbed, by which means he can swim with great ease. He is covered with long shaggy hair, has feathered legs, and an extremely villous tail, which is curvilinear.

*Saves the Life of a Gentleman.*

In the summer of 1792, a gentleman went to Portsmouth for the benefit of sea-bathing. He was conveyed in one of the machines into the water; but being unacquainted with the steepness of the shore, and no swimmer, he found himself, the instant he quitted the vehicle, nearly out of his depth. The state of alarm into which he was thrown increased his danger, and, unnoticed by the person who attended the machine, he would inevitably have been drowned, had not a large Newfoundland dog, which by accident was standing on the shore and observed his distress, plunged in to his assistance. The animal seized him by the hair, and conducted him safely to land, but it was some time before he recovered. The gentleman afterwards purchased the dog at a high price, and preserved him as a treasure of equal value with his whole fortune.

*Expert Newsman.*

Mr. Peter Macarthur informs me, that in the year 1821, when opposite to Falmouth, he was at breakfast with a gentleman, when a large Newfoundland dog, all dripping with water, entered the room, and laid a newspaper on the table. The gentleman (who was one of the Society of Friends) informed the party, that this dog swam regularly across the ferry every morning, and went to the post-office, and fetched the papers of the day.



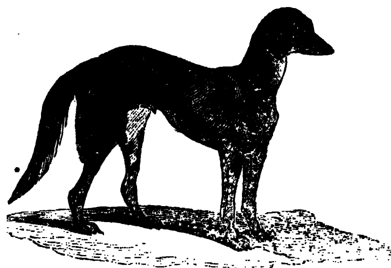
THE SPANISH POINTER.

CANIS AVICULARIS.—Var. a. Linnæus.

This dog, as his name implies, is a native of the Peninsula, and was introduced into England at a very early period. Great attention was paid by sportsmen for a long series of years to preserve in purity this important breed; but lately it has in a great measure been set aside in field-sports, a more improved race having been produced by crossing, usually called the English pointer.

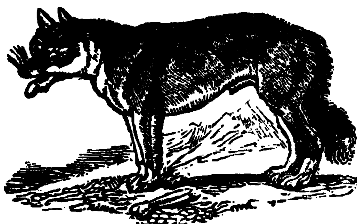
The Spanish pointer is much larger and stronger than the English, and is also more steady. He seems to have an inherent aptness for receiving instruction. Indeed it requires but little tuition to render him fit for the field; as, in most instances, young dogs of this breed will point of their own accord, whilst the more improved kinds require considerable drilling to initiate them, and make them do their work steadily.

The Spanish breed is the most staunch of all dogs, and if they had speed and activity in proportion to their steadiness, they would excel all others which are auxiliary to man in the sports of the field. From their weight, however, they are not so well suited for an extensive range, nor are they so hardy as the English dog, on which account they are ill adapted for the laborious amusement of grouse shooting. They are now chiefly used by those who confine their sport to the pheasant and the partridge.



THE PERSIAN GREYHOUND

bears a general resemblance to the greyhound of our own country, but has a somewhat bushy tail.



THE WOLF.

Canis Lupus.—Linnæus.

The specific characteristics of the wolf and dog are so nearly the same, that a particular description of its form,

besides what is above given in its generic character, is unnecessary. One of the principal distinctions is, that the eyes of the wolf are placed in a more oblique position than those of the dog, which gives it a look of savage fierceness; its tail is long and bushy, which it never carries erect, but always in a pendulous form, rather bending inwards between its hind legs.

Wolves vary considerably in colour and size, according to the species and variety. They are natives of every quarter of the globe, are possessed of great strength, and are most ferocious in their disposition; associating in large packs, often spreading desolation in the districts they invade; which is admirably depicted in the powerful language of Thomson:—

> By wintry famine roused, from all the tract
> Of horrid mountains, which the shining Alps,
> And wavy Apennine, and Pyrenees,
> Branch out stupendous into distant lands,
> Cruel as death! and hungry as the grave!
> Burning for blood! bony, and gaunt, and grim!
> Assembling wolves in raging troops descend;
> And, pouring o'er the country, bear along,
> Keen as the north wind sweeps the glossy snow—
> All is their prize.

With a savage and malignant disposition, the wolf is a cowardly animal, and always mistrustful; he conceives every object is a snare to entrap him. In Lapland, if he comes upon a rein deer tied to a post to be milked, he will not venture to approach it, lest the animal should be tied there as a decoy; but no sooner is the deer set at liberty, than he commences a pursuit, and destroys it. But should the deer get irritated, and stand at bay, the wolf instantly becomes intimidated. It is only through frequent disappointment, and the cravings of hunger, that the wolf evinces courage. In that case, he will brave every danger, and attack animals which are under the

immediate protection of man; and even man himself frequently falls a victim to their united attacks. It is said, that after having tasted human blood, he prefers it to all other. This has given rise to many superstitious stories regarding him. The old Saxons believed that he possessed some evil spirit; hence their appellation, the *were wulf;* and the peasantry of many of the districts of France call him the *loupe garon*, for the same reason.

The wolf has great strength, especially in the muscles of his neck and jaws; he can carry a moderate sized sheep in his mouth, and run off with it, without any difficulty.

The female goes with young about three months and a half, and brings forth five or six young ones.

*Distressing Occurrence.*

On the 10th of January, 1830, a frightful event spread terror throughout the neighbourhood of Eux-Bonnes, in the departement of Basses Pyrenees:—The curate of the little village of Atra, situated on the mountain, was returning home on horseback, after administering the sacrament, when he was surrounded by wolves, which precipitated themselves upon him and the horse with all the ferocity occasioned by hunger. A number of bones, and fragments of flesh, which were strewed about, as well as the traces of blood, with which the snow was crimsoned, left no doubt of the horrible fate of the unfortunate clergyman, who fell a victim to his pious zeal.

The wolves, driven by the cold and hunger from their haunts in the Pyrenees, having spread themselves in vast bands over the country at the time the above occurrence took place, orders were given at Pau, by the prefect of the departement, for a general battue, or chase, on the 22d of January. The country magistrates having received

the instructions requisite for this chase, set out accordingly, accompanied by all and sundry, on the general pursuit, and relieved the extensive district from these dangerous visiters, by killing many, and driving the rest to their native fastnesses.

*Chariot drawn by Wolves.*

In the summer of 1824, a singular equipage was seen, for upwards of six months, in the streets of Munich. It was a calash drawn by two enormous wolves, which M. W. K. formerly a merchant at St. Petersburgh, found very young in a wood near Wilna, and had so well tamed, that they had all the docility of horses. These animals were harnessed exactly like our carriage horses, and had completely lost their ferocious aspect.

*Tame Wolf in the Jardin du Roi.*

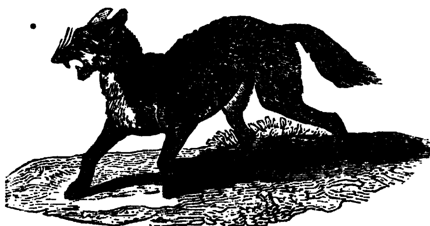
There is now in the menagerie of the *Jardin des Plantes*, at Paris, a black wolf. He was brought when very young, and presented to Baron Cuvier's step-daughter, Mademoiselle Devousel, who, finding him so tame, desired he might have a dog as a companion, and be fed entirely on broth and cooked meat. Her orders have been obeyed, and the animal retains all his gentleness and docility. He never sees her but he stretches his paw through the bars to be shaken; and, when she lets him loose, he lies down before her, licks her feet, and shows every mark of joy and affection.

*The Lapdog Kidnapped.*

Mr. Lloyd says that wolves rarely attack man, when they can procure other food, a fact of which the following anecdotes are strongly corroborative:

"Some fifty years ago, and when quite a boy, Captain

Eurenius was, one starlight and very cold night, returning from a dance in the vicinity of Wenersborg. It was Christmas time, and there were fifteen or sixteen sledges in company. Most of the horses were provided with bells, to scare the wolves. In the middle of the cavalcade was a sledge occupied by a lady. At the back of the vehicle, as is frequently the case, sat the servant, who was driving; whilst, on a bear's skin, which covered her feet, a favourite lapdog was reposing. In passing through a wood, however, and in spite of the jingling of the bells, &c. a large wolf suddenly sprung from the thicket, when, seizing the poor dog, he leapt over the sledge, and was out of sight in a thick brake on the opposite side of the wood in the course of a few seconds."



THE JACKAL.

Canis Aureus.—Linnæus.

The jackal differs but unimportantly from the dog, and in some respects resembles the wolf. He is found in Africa, from the Cape of Good Hope to Barbary; in Syria, and in Persia, and throughout the entire of Southern Asia. In those warm regions he associates with the vulture and hyæna, in devouring decomposing animal bodies, which would otherwise poison the atmosphere by their putrescence.

The size of the jackal is about that of the fox. The pupils of his eyes are round, as in the dog; the tail is bushy, like that of the fox, but reaches only to the heel. The upper parts of the body and limbs are of a dirty yellow, abruptly divided from the under parts, which are whitish; the tail is black and yellow, terminated with black; the muzzle, nails, and eyeballs, are black.

Jackals live in troops, and inhabit burrows, which they excavate for themselves. Besides devouring carcasses, they pursue and prey on the weaker animals. Their nocturnal bark, or "shriek," as it is poetically termed by Leyden, is described by travellers as more terrific than the roar of the tiger. Captain Beechey describes it as "rather appalling, when heard for the first time at night; and as they usually come in packs, the first shriek which is uttered is always the signal for a general chorus. The sudden burst of the answering long protracted scream, succeeding immediately to the opening note, is scarcely less impressive than the roll of the thunder-clap immediately after a flash of lightning. The effect of this music is very much increased when the first note is heard in the distance, a circumstance which often occurs, and the answering yell bursts out from several points at once, within a few yards or feet of the place where the auditors are sleeping."

The jackal has been commonly termed "the lion's provider;" but the only means by which he aids the lion in obtaining prey is by rousing him with his loud cries, and starting the more timid animals of the forest into a chase.



THE FOX.

CANIS VULPES.—Linnæus.

The fox is an inhabitant of almost every temperate country on the globe; and, in all situations, distinguished for his craftiness.

Naturalists are divided in their opinion respecting the different species of this animal; some considering them as merely varieties, changed and modified in their form, and texture of their fur, from the local situations in which they are produced. These, however, are not so great as in the many varieties of his congener, the common dog. I shall neither enter into these distinctions, nor give a minute account of the structure of an animal so well known, confining myself to a pretty full detail of his instinctive and destructive habits.

Of the distinctive characters between foxes and dogs, the most prominent is in the structure of the eye. In dogs, however great the intensity of light to which they may be exposed, the iris uniformly contracts around the pupil, in the form of a circle; while, in the fox, if observed during the day, or under the influence of a strong light, it is seen to close in a vertical direction, the pupil assuming the figure of a section of a double convex lens. The object of this provision is obviously to exclude the rays of light, as it is well known that animals

which seek their food at night, do so under the medium of a comparatively much smaller proportion of light.

The fox is of so wild and ferocious a nature, that it is not possible wholly to tame him.. There is no predatory animal possessed of more cunning than he is, not only in providing himself with a secure asylum, wherein to repose and rear his young, but also, in the methods he adopts for catching his prey, which consists of lambs, geese, fowls, hares, rabbits, and small birds of all kinds. He is also very fond of grapes, and often proves extremely destructive to the vineyards of France.

When a convenient situation presents itself, he is sure to fix his habitation near some farm or village, so that he may the more easily attack the poultry, which is at all times his favourite food; and he often commits great depredations in poultry yards, destroying in a single evening every thing that has life. When all other kinds of food fail him, reynard will destroy serpents, lizards, toads, moles, frogs, rats, and mice: and, when extremely pressed by hunger, he will feed on roots, and other vegetable substances; but this is a last shift with him. He is also known to eat crabs, shrimps, or other shell-fish. He is also said by Buffon to be fond of honey, and will boldly attack hives and wild bees' nests, frequently robbing them of their stores—but not always with impunity, for these little warriors are ever ready to defend their castles, from whence they issue, and, fastening on the invader, force him to retire. Frequently a number stick to his back, of which he rids himself by rolling upon the ground, and crushing them to death, when he returns to the charge, and devours both wax and honey.

The fox will either run down his prey, or sometimes slip cautiously forward like a cat, trailing his body on the ground, and then make a sudden bound at his booty,

seldom missing his aim. This hê either hides among bushes or herbage, or carries off to his burrow. In this manner, he returns repeatedly to his work of destruction, and generally keeps a considerable stock of provisions in store, but always in different places, to serve him in time of need. It is seldom, however, that he prolongs his excursions after the sun has risen above the horizon.

The chase of the fox has long been a favourite field sport, and is pursued with ardour and intrepidity. Both dogs and horses are bred with particular care for this pastime. The instant the fox finds himself pursued, he makes for his hole,—which the huntsmen, or earth stopper, are careful to have closed up when he is out on a foray. Debarred from entrance, he has recourse to his speed and cunning for his safety. He does not double, like the hare, but takes a straightforward course, which he pursues, with strength and perseverance, sometimes for a distance of fifty miles at a stretch, without the smallest intermission. Both dogs and horses, particularly the latter, frequently fall victims to the ardour of the chase. Such is the great strength of the fox, that, in many instances, he escapes the utmost efforts of his pursuers to take him, and again returns to his hole in safety. But, if it should happen that all shifts fail, and he is at last overtaken, he defends himself with much obstinacy, and silently fights till he is torn to pieces by the merciless dogs.

The fox is remarkable for the brilliancy and expression of his eye, which evinces much intelligence. When partially tamed, he is a playful animal, resembling the dog in his gambols; but, like all other savage creatures, is not to be depended on, and frequently bites those with whom he is familiar, on the most trivial offence. He, however, seldom thrives in a state of thraldom, and

generally begins to languish, and eventually dies of melancholy.

The fox produces young only once a-year, and generally brings forth from three to six at a litter. They are blind, of a dark reddish brown, do not arrive at their full size till eighteen months old, and live to the age of fourteen or sixteen years.

### *The Marauder Plundered.*

We are told by Pontoppidan, that, when a fox observes an otter enter the water to fish, he will place himself behind a stone or a bush, and there lie concealed till he sees the otter safely on shore with his prey, when he makes a violent spring at the booty, which generally surprises and frightens the otter so much, that he rushes into the water, leaving the fish behind him.

### *Sly Reynard.*

In the autumn of the year 1819, at a fox-chase in Galloway, a very strong fox was hard run by the hounds. Finding the danger he ran of being taken, reynard made for a high wall at a short distance, and, springing over it, crept close under the other side: the hounds followed him; but, no sooner had they leapt the wall, than he sprang back again over it, and, by this cunning device, gave them the slip, and got safe away from his pursuers.

### *Cunning Stratagem.*

Mr. Hawkins, of Pittsfield, an American gentleman, was in pursuit of foxes, accompanied by two bloodhounds. The dogs found a fox, and pursued him for nearly two hours, when, suddenly, they appeared at fault. Mr. Hawkins came up with them near a large log of wood lying on the ground, and felt much surprise at their

making a circuit of a few roods without an object in view, every trace of reynard seeming to have been lost, while the dogs still kept yelping. On looking about him, he discovered the fox stretched upon the log, apparently lifeless. Mr. Hawkins made several unsuccessful efforts to direct the attention of the dogs towards the place. At length, he approached so near the artful object of his pursuit, as to see him distinctly breathe. Even then, reynard exhibited no alarm, and Mr. Hawkins, seizing the branch of a tree that lay hard by, aimed a blow at him, which the fox evaded by a leap from his singular lurking place, having thus for a time effectually eluded the observation of his enemies.

### *A Fox in a Well.*

In the neighbourhood of Imber, Wilts, a fox having been hard run, took shelter under the covering of a well, and, by the endeavours used to extricate him from thence, was precipitated to the bottom, which is one hundred feet. The bucket being let down, he instantly laid hold of it, and was drawn up a considerable way, when he again fell; but, on the bucket being let down a second time, he secured his situation, and was drawn up safe, after which he was turned off, and got clear away from the dogs.

### *Fraternal Solicitude.*

In the end of May, 1829, as the forester on the estate of Auchinreoch, parish of Campsie, Ayrshire, proceeded to a field, about seven in the morning, he was unexpectedly saluted by the howling of two full grown foxes, which obstructed him in his course with so determined a resistance, that he was glad to call another man to his aid before he could drive them off. On reaching a small

coppice, a third fox was discovered hanging from a young ash tree, about three feet from the ground, with its shoulders firmly wedged between the forked branches. So hard had reynard struggled for liberty, that one of his fore-legs was broken: they succeeded, however, in taking him alive.



## Genus VIVERRA.—Linnæus.

*Generic character.* The incisory teeth $\frac{6}{6}$; the canine teeth $\frac{1\cdot1}{1\cdot1}$; the grinders $\frac{6\cdot6}{6\cdot6}$; total 40; in the upper jaw, three false grinders, which are a little conical and compressed; a large carnivorous bicuspid tooth, and two tuberculous ones; in the lower jaw are four false grinders; one bicuspid, and one large tuberculous tooth behind; the head is long; the muzzle pointed; the nostrils pierced on the sides of the nose; the pupils of the eyes capable of contracting themselves almost into a line; the tongue aculeated; the feet with five toes, and the claws partly retractile; with an oval pouch, more or less deep.

### THE CIVET.

Viverra Civetta.—Linnæus.

The length of the civet, from the nose to the insertion of the tail, is somewhat more than two feet, and its tail is upwards of a foot long. The colour of its fur is ash gray, marked with large blackish or dusky spots; the hair is of a coarse texture, and, along the back, stands somewhat erect, like a mane; the body is rather thick; the forehead broad, the muzzle acute, and black at the tip; there are three black stripes which proceed from the back of the ear, and terminate at the shoulders and throat.

The civet is remarkable for the drug, or perfume, procured from it, called civet, having a strong resemblance to musk, with which it has been frequently confounded. Its odour, however, is considerably different, and its medical properties also somewhat dissimilar. Although this animal is originally a native of Africa and Asia, yet it lives in temperate countries; and numbers of them are kept in Holland, for the purpose of collecting this very costly perfume. The civet procured at Amsterdam is considered more valuable than that got from the Levant or India, being freer from adulteration: its average value is about fifty shillings an ounce; but, like other things, liable to a fluctuation in price. To collect civet, the animal is put into a cage so narrow, that it cannot turn itself. The cage is then opened at one end, the creature is pulled back by the tail, and securely held by the hind legs. A small spatula is then introduced into the pouch containing the perfume, which is carefully scraped out, and put into a bottle properly stopped. This operation is performed two or three times a-week. In a state of nature, the animal empties the bag of this secretion spontaneously.

The perfume of the civet is so strong, that it infects every part of the beast, and so completely penetrated with it are the skin and hair, that they retain its odour long after being removed from the body. If the animal is irritated, the scent becomes very powerful; and even in ordinary, it cannot be kept long in a room, without becoming almost insupportable.

In a native state, the civet feeds on birds and small animals. It is naturally savage and ferocious, but is easily tamed; and when so, its food consists principally of boiled flesh, eggs, rice; and fish is an especial favourite with it. It requires but little drink.

The civet is possessed of great agility, leaps with all the nimbleness of a cat; and, like that animal, takes its prey by pouncing upon it. It has been frequently known to carry off poultry from a barn yard. The voice of the civet is stronger than that of a cat, resembling the cry of an enraged dog. It is a prolific animal in its wild state, but never breeds in captivity.

### *Effects of Carelessness.*

M. Barbot had a tame civet at Guadaloupe, which, through the carelessness of a servant, was allowed to be a whole day without food. On the following morning, the hungry animal gnawed through the wood of his cage, and entered a room in which M. Barbot usually sat, where he was writing at the time. The civet stared about with a ferocious and sparkling eye for some time, and then made a leap at a beautiful American parrot, which was perched on a piece of wood, fixed in the wall, about six feet from the ground. Before Barbot could reach the bird, the civet had torn his head off, and had actually begun to feast on his victim.

## THE ZIBET.

VIVERRA ZIBETHA.—Linnæus.

This animal has been by some authors considered as merely a variety of the civet; but is, nevertheless, a distinct species. The ears of the zibet are longer and more erect than those of the civet; its muzzle is thinner and more flattened; its body longer and not so thick; its tail is considerably longer, and remarkable for the fine circular rings with which it is marked, resembling in this respect the genet; it has none of the upright hairs

on the back of the neck and spine; and its hair is shorter and softer.

The perfume of the zibet is also much more powerful than that of the civet. It is a thick secretion, like pomatum.



## Genus HERPESTES.—Illiger.

*Generic character.* The incisory teeth $\frac{6}{6}$; the canine teeth $\frac{1\,1}{1\,1}$; the grinders $\frac{5\,5}{5\,5}$; total 36; the body is much elongated, and with a large anal pouch; feet with five toes, somewhat palmated, and the nails capable of being partly retracted.

### THE EGYPTIAN ICHNEUMON.

Herpestes Pharaonis.—Desmarest.

This astonishing creature is about the size of a domestic cat,—the tail being as long as the body. Its fur is pale reddish gray, each hair being encircled with alternate rings of this and mouse colour. The muzzle long, taper, pointed, and black; the ears almost naked, very small, and rounded; the eyes of a fiery red. The tail is very thick at its insertion, gradually tapering to an acute point, with a slight tuft. The legs are short, the feet small and black, and furnished with extremely sharp claws.

In Egypt and India, the ichneumon is as domestic as our cat, and is kept by the natives for ridding their houses of rats and mice, at which it is very expert. No animal has a stronger propensity for the destruction of every thing living, than this creature; and it possesses courage, strength, and agility, superior to every other

animal of its size. It fearlessly attacks the most deadly serpents, and preys upon every noxious reptile of the torrid zone, which it seizes and kills with great avidity. That fatal snake, the *cobra di capello*, (*coluber naja*, of Linnæus,) frequently falls a victim to it. It is particularly fond of crocodile's eggs, which it digs out of the sand; and often kills young crocodiles themselves. In its conflicts with poisonous serpents, they sometimes bite the little creature, in which case, it immediately flies to the root of a certain plant, which is said to counteract the effects of poison. This plant is called by the Indians after the animal. From the great utility of the ichneumon, in ridding their country of so many noxious and troublesome animals, the ancient Egyptians held this creature in religious veneration, worshipping and ranking it among those deities that were most propitious to them.

The adroitness with which the ichneumon seizes the poisonous serpents, is not one of the least remarkable features of its history; for it generally contrives to catch the serpent by the throat in such a manner, that it cannot retaliate on its little enemy.

The ichneumon is said to swim and dive with much dexterity, in a wild state, and in this exercise to be much like an otter, and able to remain under the water a long time. He generally frequents the banks of rivers, but, when the waters are flooded, seeks food on higher situations. When he sleeps, he coils himself up like a ball; and it is with great difficulty he can be roused from his slumbers. In feeding, he frequently sits up like a squirrel, and will catch with dexterity any thing thrown to him. The voice of this animal is a soft murmur, which he seldom emits but when irritated. He is short lived; and in temperate climates it is with much difficulty he can either be reared, or preserved alive, generally falling a victim to the change of climate.

*Singular display of Caution.*

Mr. Percival saw an experiment tried in a closed room, where the ichneumon, instead of attacking a poisonous serpent that was presented to him, did all in his power to avoid it. On the snake being carried out of the house, however, and laid near his antagonist in the plantation, he immediately darted at the snake, and soon destroyed it. It then suddenly disappeared for a few minutes, and again returned, as soon as it had found and ate of the herb which is an antidote to the poison of snakes.



## GENUS HYÆNA.—CUVIER.

*Generic character.* The incisory teeth are $\frac{6}{6}$; the canine teeth $\frac{1\,1}{1\,1}$; the grinders $\frac{5\,5}{4\,4}$, total 34; three conical false grinders; one very long and strong carnivorous tooth, with three cutting edges on the outside, and a small tubercle within; in the upper jaw, there is a small tuberculous tooth behind; in the lower jaw, there are three false grinders, and the carnivorous tooth is bicuspid; the jaws are very strong, and shorter than those of the dog; the legs are long, and the feet have four toes, the nails like those of dogs, and are not retractile; the eyes projecting, and the ears large and pricked; there is a glandular pouch under the tail.

### THE STRIPED HYÆNA.

HYÆNA VULGARIS.—Desmarest.

This species is about the size of a large dog, generally measuring about nineteen inches at the shoulders, the ordinary length of the body, from the muzzle to the tail, being usually three feet three inches. The hair is of an

ash colour, very coarse, and rough, marked with long black waved stripes, which rise at the spine, running down the sides, and under the belly, and become oblique on the flanks. The legs are irregularly clouded with black. A bristly, hog-like mane runs along the back, from the top of the neck, and loses itself in the tail, which is also covered with long stiffish hairs. The hide is composed of two sorts of hair. The fur, or wool, in very small quantity; and the silky hair long, stiff, and not very thick, excepting on the limbs, where it is short and close; on the muzzle, it has the appearance of being shaven.

The striped hyæna is a native of Asiatic Turkey, Barbary, Egypt, Nubia, Abyssinia, Syria, Persia, and many other parts of Africa, where it resides in caverns of mountains, clefts of rocks, or holes dug by itself. Its disposition is exceedingly ferocious; and although taken very young, can never be rendered completely tame. The courage of the hyæna is equal to its rapacity. It will defend itself against much larger animals, is not afraid even of the lion nor the panther, and is said to be more than match for the ounce. The hyæna generally seeks its prey during the night, when it issues forth, and attacks every living animal it meets with. Cattle are often killed, and sheep folds completely devastated by hyænas. They have been known to assemble in vast troops, and to follow an army, feasting on the dead left behind. It has been also said, that when pressed with hunger, they will ransack the repositories of the dead, and greedily devour carcasses which are quite putrid. They will also subsist on the roots of plants and the shoots of palms; but this is only when they cannot procure animal food.

The cry of the hyæna is very peculiar and dismal; its

commencement is somewhat like the moaning of a human being, and ends like a person making a violent and strained effort to vomit.

The hyæna, although naturally wicked, has been known to be rendered tolerably domestic. Buffon mentions one, which was at Paris, seemingly freed from all his natural destructive propensities; and Pennant asserts, he had seen one as tame as a dog.

Mr. Bruce, when in Africa, confined, in the same apartment, a lamb, a goat, a kid, with a hyæna, for a whole day, without giving the latter any food; and he found his harmless companions quite safe in the evening. He tried a similar experiment with a young ass, a goat, and a fox, whom he confined with him during the night; but next morning, he had destroyed and devoured all but the ass's bones. Bruce says, the hyænas of Abyssinia prowl about in the day time, as well as at night. "These creatures were," says he, "a general scourge to Abyssinia, in every situation, both in the city and in the field, and, I think, surpassed the sheep in number. Gondar was full of them, from evening till the dawn of day, seeking the different pieces of slaughtered carcasses, which this cruel and unclean people expose in the streets, without burial. Many a time in the night, when the king had kept me late in the palace, and it was not my duty to sleep there, in going across the square from the king's house, not many hundred yards distant, I have been apprehensive lest they should bite me in the leg. They grunted in great numbers about me, although I was surrounded by several armed men, who seldom passed a night without wounding or slaughtering some of them."

Mr. Pringle says, that hyænas are the general scavengers of the country at the Cape, never failing to devour the carcasses, and, in great part, the skeletons of dead

animals, and the refuse left by other beasts of prey; and we have his authority, as well as Mr. Brown's, that they even devour their own species, when they find a dead one. Mr. Pringle says, that the flesh of the spotted hyæna is so rank and offensive, that no other beast of prey but their own species, will come near it. At Dar-Fur, a kingdom in the interior of Africa, hyænas enter the villages every night, in small herds of from six to fifteen, and carry off every animal they are capable of destroying. Dogs, asses, and horses, are frequently their victims; and if they meet with a dead horse, they seldom fail to find ways and means to remove it. Neither the sight of man, nor the discharge of fire-arms, will intimidate these animals.

Mr. Bruce remarks a singular peculiarity of the hyæna:—He says, in hunting it, and when fairly dislodged from his retreat, he always runs lame for a considerable distance, having all the appearance as if one of his limbs were broken; but that, after being pursued for some distance, this wears off, and he then runs with great swiftness.

From all accounts, hyænas are impatient of restraint; and if a tame one, which has been accustomed to freedom, is shut up, his temper assumes its native fierceness.

## THE SPOTTED HYÆNA.

### Hyæna Capensis.—Desmarest.

The spotted hyæna is a native of Southern Africa, and abounds in the neighbourhood of the Cape of Good Hope. The mane of this species differs from that of the striped hyæna in its fulness, reaching only to the loins, and the remaining part consisting chiefly of scattered hairs. The general colour of this quadruped is reddish brown,

and marked with round dark blackish brown spots, and a few transverse bars on the hind legs. The head is much larger than that of the other species, and flatter. Its ears are large, flat, and rounded.

Mr. Barrow, in his *Travels in Southern Africa*, says,—"The cadaverous crocuta, or spotted hyæna, has lately been domesticated in the Snewberg, where it is now considered one of the best hunters after game; and as faithful and diligent as any of the common sorts of domestic dogs." Bishop Heber mentions having seen one in India, in the possession of Mr. Traill, which followed him about like a dog, and fawned on those with whom he was acquainted: he mentions this as an instance of "how much the poor hyæna has been wronged, when he is described as untameable!"

### *Temerity Punished.*

A soldier, about sixteen years ago, visited the Royal Menagerie, and brought along with him a small terrier dog, which the fellow knew to be possessed of great courage. He ridiculously held him up to the den of the hyæna: on seeing the animal, the dog became irritated, and, in his rage, thrust his head between the bars; when the hyæna became infuriated, sprang at the dog, dragged him through, and almost immediately devoured him.



## GENUS RATELUS.—BENNET.

*Generic character.* The incisory teeth $\frac{6}{6}$; the canine teeth $\frac{1\text{-}1}{1\text{-}1}$; grinders $\frac{4\text{-}4}{4\text{-}4}$; total 32; the canine teeth remarkably thick and strong, especially in the lower jaw, and somewhat triangular in the upper jaw; there are two false grinders, with conical and pointed crowns; one lanceolate,

and one tubercular, arranged exactly in the same manner as in the feline tribe. In the lower jaw there are three false molars anterior to the broad and powerful lanceolate tooth; the body is heavy, thick, and depressed; the legs short and stout, with five toes on each foot, surmounted by slightly arched unretractile claws; the snout moderately long; muzzle soft and naked; it has no external ears; the tongue is rough, like that of a cat.



THE RATEL.

RATELUS MELLIVORUS.—Bennet.

The only distinct specific description of this animal is given in that beautiful work, the *Gardens and Menagerie of the Zoological Society*, from which I quote the account:—

"In size, the ratel is about equal to the badger, to which it also bears a distinct resemblance in form. The whole of the upper surface of its body, which is singularly broad and flat, comprehending the top of the head and neck, and the entire plane of the back, and the root of the tail, is of a dark ash gray, whiter towards the head, and strongly contrasting with the under parts; including also the muzzle, the contour of the eyes, and of the ears, the limbs, and remainder of the tail, which are throughout perfectly black.

"The hair along the body, although tolerably smooth,

is remarkably stiff and wiry; and the hide beneath it is occasionally tough, and so loose, that Sparman's statement is scarcely to be regarded as an exaggeration, when he assures us, that 'if any body catches hold of him by the hind part of the neck, he is able to turn round, as it were, in his skin, and bite the arm of the person that seizes him.'"

There are two varieties of this animal, the one a native of Africa, the other of Asia; and naturalists, till very lately, have not been at all acquainted with the true habits of this quadruped; for, we were led to believe, from the accounts of Sparman and others, that its principal nutriment consisted of honey. But General Hardwicke—to whom science is much indebted for many valuable observations, made by him in India—gives a very different acçount of the habits of this curious creature; and, as these agree with the propensities, which we would be led to expect from the description given by him, their authenticity is beyond a doubt. The General states that it is found in several parts of India, in the high banks bordering the Ganges and the Jumna, from which it rarely issues by day, but prowls at night around the habitations of the Mahommedan natives, scratching up the recently buried bodies of the dead, unless their graves are protected by thorny bushes placed over them for the purpose.

"It burrows with such celerity, that it will work itself under cover, in the hardest ground, in the space of ten minutes. The natives sometimes dig them out of their holes, and take them alive; the old ones, however, are, with much difficulty, secured, and seldom live long in captivity. The young, on the contrary, are very manageable, docile, and playful. Their general food is flesh in any state; but birds, and living rats, appear to

be peculiarly acceptable; they are fond of climbing, but perform this operation in a clumsy manner; although they will ramble securely along every arm of a branching tree, providing it is sufficiently strong to bear their weight. They sleep much during the day, but become watchful at night, and manifest their uneasiness by a hoarse call or bark proceeding from their throat."

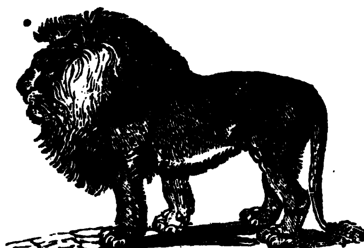
One of these animals is kept alive in the London Zoological Gardens. "As far as its manners have yet been developed, it appears to be, with regard to man at least, one of the most playful and good tempered of beasts, soliciting the attention of almost every visitor, by throwing its clumsy body into a variety of antic postures; and, when noticed, tumbling heels over head, with every symptom of delight. But, towards animals, it exhibits no such mildness of temper; and it is curious to observe the cat-like eagerness with which it watches the motions of any of the smaller among them, that happen to pass before its den, and the instinctive dread manifested by the latter on perceiving it. Its food is of a mixed nature, consisting, like that of the bears, and other less carnivorous animals, of bread and milk in the morning, and flesh in the latter part of the day.



## Genus FELIS.—Linnæus.

*Generic character.* The incisory teeth $\frac{6}{6}$; the canine teeth $\frac{1\,1}{1\,1}$; the grinders $\frac{4\,4}{3\,3}$ or $\frac{3\,3}{3\,3}$; total 28 or 30. The head is round, the jaws are short, and the tongue aculeated; the ears are in general short and triangular, and, in many species, with a white spot on the back of them; the pupils of the eyes in some are circular, in others vertically oval; the fore feet with five toes; the hind feet

have four only, furnished with long, sharp, retractile claws, usually contained in sheaths.



THE LION.

FELIS LEO.—Linnæus.

The ordinary length of the lion, from the muzzle to the tail, is about six feet, and his height at the shoulders upwards of three feet; so that he stands rather low on his legs. The tail is upwards of three feet in length, terminated by a thick tuft of blackish hairs. There is a very small dark coloured prickle at the tip of the tail concealed by the hairs; it is as hard as a piece of horn, and surrounded at its base with an annular fold of the skin. The general colour of the fur is tawny, usually paler below the belly; the legs are thick, and very strong; the feet large and spreading; the claws are retractile, not contained in sheaths, but in the hollows between the toes, which are beautifully provided by nature for their reception, by the particular articulation of the last joint. The lion has a peculiar characteristic, by which he is at once distinguished from all other cats, namely, a long and flowing mane, which rises in the middle of the forehead, and extends backwards over the shoulders, descending in graceful undulations on each side of his neck and face. Except in a young state, the skin of the

lion never exhibits the least appearance of spots or stripes.

The roar of the lion has been mentioned by all who have heard it in a wild state, as horrific, and more particularly, when it is heightened into a short scream, on his making the fatal bound on his prey. The sound is said by travellers sometimes to resemble the noise which is heard at the moment of an earthquake. Burchell says this sound is produced by the animal laying his head upon the ground, and uttering a half stifled growl, by which means, the noise is conveyed along the surface of the earth. When this sound is heard by other animals, they suddenly start to their feet, and fly off in all directions; and not unfrequently rush into the danger they seek to avoid. The strength of his roar is in consequence of the great comparative size of the larynx.

In a state of captivity, it has been noticed, that the lion has a regular and constant time of roaring. It has been remarked that the lions in the royal menagerie in the Tower, during temperate weather, commence roaring about dawn, one of them taking the lead, and the others joining in succession; and that, if one of them fails to follow, it is a sure sign of approaching sickness.

The large whiskers in the lion, and all the cat tribe, are organs of touch. They are so long in this animal, as well as in the domestic cat, that, from the tip of those on one side to the tip of those on the other, they are equal to the breadth of the bodies of the animals. Their roots are inserted into a bed of close glands under the skin, which are connected with the nerves of the lip. These bristles must be of infinite use to the lion when skulking through thick jungles in the dark, and will indicate to him any obstacle which presents itself, and is likely to impede his progress, and prevent him from

rustling through thick leaves when in search of his prey, which might warn them of his approach. The soles of his feet, likewise, being covered with fur, enable him to tread with the utmost lightness.

The lion is a long lived animal; but his average age is not precisely known. The great lion, called Pompey, which died in 1760, was known to have been in the Tower above seventy years; and one brought from the river Gambia died there at the age of sixty-three.

When the moral and intellectual faculties of the lion are attentively analysed, it will be found that he manifests the same guileful and vindictive passions with the rest of the tribe of which he is a member. The generosity and grandeur of his character, the belief of which has been handed down to us from remote ages, and which the fascinating pen of Buffon, and other writers, have depicted in such powerful and glowing language, may be looked upon as a series of beautiful and romantic fictions. His magnanimous forbearance, and noble generosity, have been greatly overcoloured. His personal history and disposition will be best gathered from the anecdotes which follow.

The courage of the lion is proverbial; but this cannot be attributed to any innate elevation of sentiment, and must rather be ascribed to the consciousness of his own physical powers, finding that there is no other animal of the forest who singly can overcome him. Attached by nature to the arid regions of Africa and Asia, he ranges uncontrolled, making the timid and defenceless antelope, the ferocious hyæna, and the cunning baboon an easy prey. His pliable agility, and sinewy frame, together with the resistless and impetuous fury of his attacks, enable him to overcome even the massive bulk of the elephant, rhinoceros, and buffalo. Roving in the bound-

less desert, the extensive plains, or in the shade of the vast jungles of his native country, he holds despotic sway, and well deserves the title of "the king of beasts." But, look at him in the neighbourhood of large towns, and populous districts, and it will be seen that his fortitude and conscious superiority are greatly modified; for, in these situations, he yields to the power of man, skulking only in the deepest recesses of extensive jungles, or in the impenetrable depths of mighty forests, seeking to overcome his unwary prey, by lying in ambush, and seizing them when they little expect his attacks. To the consciousness of a want of capacity to overcome the lords of creation, must, in a great measure, be attributed his docility under captivity; and to his native dignity of aspect he is indebted for the general impression mankind have formed of his noble character, and amiable disposition.

The lion is destined by nature to subsist on animal food alone, and has been invested with physical energies, constructed on principles which give him, in an astonishing degree, the power of destroying animal life. His head is particularly large, his jaws have immense strength, and his shoulders and chest have a depth far exceeding all other animals of his size.

"It is singular," says Sparrman, "that the lion, which, according to many, always kills his prey immediately if it belongs to the brute creation, is reported, frequently, although provoked, to content himself with merely wounding the human species; or, at least, to wait some time before he gives the fatal blow to the unhappy victim he has got under him. A farmer, who the year before had the misfortune to be a spectator of a lion's seizing two of his oxen, at the very instant he had taken them out of the wagon, states that they immediately fell down

dead upon the spot, close to each other; though, upon examining the carcasses afterwards, it appeared that their backs only had been broken.

The lion, when in captivity, is fed but once a-day, and is generally allowed from eight to nine pounds of beef to a meal, exclusive of bones. When his food is given to him, he generally seizes it with avidity, instantly tears it to pieces with his claws, and voraciously devours it, contrary to the practice of those in a state of nature.

Africa appears to have been the primitive country of the lion, which seems to arrive at greater strength and magnitude in the vicinity of the settlements at the Cape. The African differs from the Asiatic lion principally in the former being generally of a larger size, more graceful in his form, and darker in the colour, and the mane less extensive. But, in Africa, there are two varieties of this quadruped; one of these the settlers have long distinguished by the appellation of the black lion, on account of its having a darker colour, and the mane somewhat blackish, in contradistinction to the other, which is of a pale colour all over. The black lion is considered the more ferocious of the two, and is said to be less scrupulous in attacking man than the other, if he is pressed by hunger. This animal is sometimes of the astonishing size of nearly eight feet from the nose to the insertion of the tail, the tail itself measuring four feet; but, happily for mankind, it seems to be more rare than the pale variety.

The lion generally sets out on his predatory excursions during the night; and his eyes are so formed, that nature seems to have designed him for a nocturnal animal, being constructed similar to those of the cat, so that the full glare of a vertical sun must be not only troublesome, but even painful to him. It is a knowledge of this that prompts travellers during the night to light fires, and

keep them blazing; their effect on the animal's eyes deters him from approaching, which he seldom will do, except when very hard pressed by hunger. But, if excited by the cravings of his appetite, he will break through every obstacle, and assume a boldness, not his natural characteristic.

As we have before noticed, night is the usual time when the lion goes in search of prey; and he never ventures to approach villages or the habitations of man at other times. Such is his strength, that he will carry off a horse which he has slaughtered, with apparent ease. In the miserable and remote kraals, or villages, beyond the precincts of European civilization, hungry lions often commit dreadful havoc, even among the inhabitants. When the lion makes an attack on these wretched people, it is said, on good authority, that the old and infirm are put in his way; and, finding his prey so easily obtained, he will return night after night, and carry off a fresh victim, until the inhabitants are forced at length to abandon a situation where they are subject to perpetual fear.

Wherever there are herds of wild animals, lions are almost always sure to skulk in their neighbourhood, stealing upon them in the dark, and destroying them night after night. The springbok, zebra, and quagga, which feed in vast herds, are his constant prey, and even the buffalo falls a victim to him. Barrow says,—"He lies waiting for him in ambush, till a convenient opportunity offers for springing upon the buffalo, and, fixing his fangs in his throat, then striking his paws into the animal's face, he twists round the head, and pins him to the ground by the horns, holding him in that situation till he expires from loss of blood." Mr. Pringle was informed by a chief of the Bechuanas, that the lion also attacks the giraffe when he comes to the springs to drink,

and that, after making the fatal spring, he is often carried away for miles, fixed to the neck of that fleet and powerful animal, till it sinks under him from fatigue.

*Interposition of Providence.*

Frejus, in his *Relation of a Voyage made into Mauritania*, gives a singular anecdote of a lion, which he says was related to him in that country by very credible persons: About the years 1614 or 1615, two Christian slaves at Morocco made their escape, travelling by night, and hiding themselves on the tops of trees during the day, their Arab pursuers frequently passing by them. One night, while pursuing their journey, they were much astonished and alarmed to see a great lion close by them, who walked when they walked, and stood still when they stood. Thinking this a safe conduct sent to them by Providence, they took courage, and travelled in the daytime, in company with the lion. The horsemen who had been sent in pursuit, came up, and would have seized them, but the lion interposed, and they were suffered to pass on. Every day, these poor fugitives met with some one or other of the human race, who wanted to seize them, but the lion was their protector, until they reached the sea-coast in safety, when he left them.

*Unshaken Fidelity.*

In the history of the crusades, it is related, that Geoffroy de la Tour, one of the knights that went upon the first crusade to the Holy Land, as he rode through a forest, suddenly heard a cry of distress. Hoping to rescue some unfortunate sufferer, he rode boldly into the thicket; but what was his astonishment, when he beheld a lion with a large serpent coiled round his body? To

relieve the distressed, was the duty of every true knight. Animated with this sentiment, it made no difference to him whether he was called upon to exert it for the preservation of man or beast; he, therefore, with a single stroke of his sword, killed the serpent, and extricated the lion from his perilous situation. From that hour, the thankful animal constantly accompanied his deliverer, whom he followed like a dog, and never displayed his natural ferocity but at his command. At length the crusade was fortunately terminated, and the knight prepared to set sail for Europe. He had wished to take his faithful lion with him; but the master of the vessel in which he sailed, could not be prevailed upon to admit him on board, and he was therefore obliged to leave him on shore. The lion, when he saw himself separated from his beloved master, first began to roar hideously; and, seeing the ship diverging from him, plunged into the waves, and endeavoured to swim after it. But all his efforts to reach it were in vain. At length, his strength being exhausted, he sunk; and the ocean engulfed this generous animal, whose unshaken fidelity had well deserved a better fate.

*Manifestation of Gratitude.*

A lion, which the French at fort St. Louis, in Africa, were about to send to Paris, on account of his great beauty, having fallen sick before the departure of the vessel that was to convey him to Europe, was loosed from his chain, and carried into an open space of ground. M. Compagnon, author of an *Account of a Journey to Bambuk*, as he returned home from hunting, found this animal in a very exhausted state, and, out of compassion, poured a small quantity of milk down his throat, whereby the lion was greatly refreshed, and soon after recovered his perfect health. From that time, the lion was so

tame, and acquired so great an attachment for his benefactor, that he ate from his hand, and followed him about every where like a dog, with nothing to confine him, but a string tied round his neck.

*Sincere Attachment.*

M. Felix, the keeper of the animals at Paris, in the year 1808, brought two lions, a male and female, to the national menagerie. About the beginning of the following June, he was taken ill, and was unable to attend the lions. Another person, therefore, was under the necessity of performing this duty. The male, sad and solitary, remained from that moment constantly seated at the end of his cage, and refused to receive any thing from the stranger, whose presence was hateful to him, and whom he often menaced, by bellowing. The company even of the female seemed now to displease him; and he paid no attention to her. The uneasiness of the animal afforded a belief, that he was really ill; but no one dared to approach him. At length Felix recovered; and, with intention to surprise the lion, he crawled softly to the cage, and showed only his face between the bars. The lion in a moment made a bound, leaped against the bars, patted him with its paws, licked his face, and trembled with pleasure. The female also ran to him; but the lion drove her back, and seemed angry, and, fearful that she should snatch any favours from Felix, a quarrel was about to take place; but Felix entered the cage to pacify them. He caressed them by turns; and was afterwards frequently seen between them. He had so great a command over these animals, that whenever he wished them to separate and retire to their cages, he had only to give the order. When he had a desire that they should lie down, and show strangers their paws or throats, on the least sign

they would lie on their backs, hold up their paws, one after another, open their throats; and, as a recompense obtain the favour of licking his hand. These animals were of the Asiatic breed, and, at the time above mentioned, were five years and a half old.

### *Inconsolable Grief.*

In the beginning of last century, there was in the menagerie at Cassel, a lion that showed an astonishing degree of tameness towards the woman that had the care of him. This went so far, that the woman, in order to amuse the company that came to see the animal, would often rashly place, not only her hand, but even her head, between his tremendous jaws. She had often performed this experiment, without suffering any injury. Upon one occasion, however, having introduced her head as usual into the lion's mouth, the animal made a sudden snap, and killed her on the spot. Undoubtedly, this catastrophe was unintentional on the part of the lion; for, probably, at the fatal moment, the hair of the woman's head had irritated the lion's throat, and compelled him to sneeze or cough. At least, this supposition seems to be confirmed by what followed; for, as soon as the lion perceived that he had killed his attendant, the good tempered, grateful animal exhibited signs of the deepest melancholy, laid himself down by the side of the dead body, which he would not suffer to be taken from him, refused to take any food, and in a few days pined himself to death.

### *Combat with a Lion.*

The following combat with a lion is mentioned in Campbell's second journey:—

A lion had been near a Bushman's hut the whole night,

waiting, as they supposed, for the arrival of its companions, to assist in attacking the family; and, if they had made the attack in conjunction with each other, it is probable they would have succeeded. Two Bootchuana herdsmen, attending the cattle near the place next morning, saw him, and ran towards Kok's-kraal, to inform the people. On their way thither they met six Girquas coming to attack the formidable creature, having already heard he was there. Advancing towards him, they fired and wounded, but did not disable him. Enraged by the smart, he advanced to take revenge on his assailants. On seeing him approach, the Girquas instantly leaped from their horses, formed them into a close line, with their tails towards the lion, and took their stand at their horses' heads. The enraged animal flew upon a Bootchuana, who was not protected by the intervention of the horses, and who tried to defend himself with his skin-cloak, or caross. The lion, however, caught him by the arm, threw him on the ground, and, while the poor man still tried to defend himself, by keeping his caross wrapped round him, the lion got under it, and gnawed part of his thigh. His Bootchuana companion at that time threw his assagai, which penetrated the man's cloak, and entered the lion's back. The same Bootchuana threw another assagai, but, instead of taking the direction he intended, it pierced the body of a dog that was barking near. The Girquas would have fired, but they were afraid of shooting the man. To drive him away, if possible, they made a great noise, and threw some stones. The lion then left the man, and rushed towards them, when they again checked his attack, by turning the horses round. He next crept under the belly of a mare, and seized her by the fore-legs, but, with a powerful kick, she made him let go his hold. In revenge, and by one stroke of his paw,

he tore open the body of the mare, and retired. After this, he tried to get round the horses to the men; but when within two yards of one of them, and on the point of making a spring, he was happily killed by a musket shot, the ball penetrating behind the ear.

### *A Painful Event.*

Under the reign of Augustus, king of Poland, and Elector of Saxony, a lion was kept in the menagerie at Dresden, between whom and his attendant such a good understanding subsisted, that the latter was in the practice of entering the cage of the former with his food. The keeper's usual habit was a green jacket; and the lion had long manifested gratification when the man paid him a visit.

Upon a certain occasion, the keeper having been at church to receive the sacrament, had put on a black coat, as is usual in that country on such occasions, and he did not think of laying it aside before giving the animal his dinner. The unusual appearance of this attire enraged the lion. He leapt at his keeper, and struck his claws into his shoulders. The man spoke to him gently, when the well known tone of his voice brought the lion in some degree to his recollection. Doubt, however, still appeared expressed in his terrific features; however, he did not quit his hold. An alarm was raised; the wife and children ran to the place with shrieks of terror. Soon some grenadiers of the guard arrived, and offered to shoot the animal, as there seemed, in this critical moment, to be no other means of extricating the man. But the keeper, who was attached to the lion, begged them not to do it, as he hoped to extricate himself at less expense. This, however, he was unable to accomplish for nearly a quarter of an hour, during which the lion kept

his hold, shook his mane, lashed his sides with his tail, and rolled his fiery eyes. At length, the man felt himself unable to sustain the animal's weight, and yet, any serious effort to escape would have been at the immediate hazard of his life. He therefore desired the grenadiers to fire, which they did through the grating, and killed the lion instantaneously; but, in the same moment, perhaps only by a convulsive dying grasp, he squeezed the keeper between his powerful paws with such force, that he broke his arms, ribs, and spine; and they both expired at the same time!

The above anecdote goes far to prove, that the sense of smell is deficient in the lion, and shows clearly that his strength is immense.

*Overcome by Human Courage.*

Henry, Earl of Alsatia, surnamed Iron, because of his strength, had, by his valour, insinuated himself into the favour of Edward III. of England. In consequence, he was much envied by the courtiers, who one day, in the king's absence, advised the queen to make trial of his courage, by causing a lion to be let loose upon him, saying, that "the lion would not touch Henry if he were truly noble." The queen gave her sanction to try this experiment upon the earl. It was his practice to rise before daybreak, and to walk in the lower court of the castle, enjoying the freshness of the air. The lion was let loose in the night, and the earl, having a nightgown cast over his shirt, with his girdle and sword, came down stairs into the court, where he met with the lion, bristling his mane and roaring. The earl, however, was not in the least astonished at meeting the huge animal, but called with a firm voice, "Stand, you dog!" At these words, the lion couched at his feet, to the great amaze-

ment of the courtiers, who looked out of their holes to behold the issue of the business. The earl laid hold of the lion, and led him towards his cage, left his nightcap upon the lion's back, and walked forth without looking behind him. "Now," said the earl, (calling to the courtiers who looked out of the windows,) "let him amongst you all that standeth most upon his pedigree, go and fetch my nightcap." But they were all ashamed and afraid, and withdrew their heads.*

### THE LIONESS.

The lioness is considerably smaller than her royal mate, and at once distinguished from him by the absence of the mane; her form is more delicately framed, and her movements are more strikingly graceful than those of the lion. She is also endowed with a greater buoyancy of spirit, which compensates in a great measure for her inferiority in physical strength. She is, besides, much more agile and ardent in her passions, so that she is, on that account, as formidable an enemy to meet with as the lion himself. She differs from him materially in the manner in which she carries her head; that of the lion being always elevated, giving him that hauteur which has been construed into elevation of sentiment, while the lioness always carries her head in a level with the line of her back, which greatly detracts from the natural vivacity of her countenance, and conveys a look of sullenness.

There are few animals more tenderly attached to their offspring than the lioness. This inherent property produces in her an astonishing change of demeanour whenever she becomes a mother: for, it has been observed,

* London Theatre, p. 576.

that lionesses which were in the highest state of domestication, have laid aside every vestige of their former docility when they have cubs. On such occasions, all her former attachments are abandoned, and old established friendship is no longer a safeguard to those approaching her. In this condition, she guards her young with a watchful feverishness, which keeps her in continual excitement, and, on the slightest grounds, she breaks out in violent and terrific fits of rage; and, so tremendous is her fury at times, that the bars seem insufficient to confine her.

The lioness goes with young five months, and produces from two to eight at a birth; and the young ones are generally somewhat striped like a tiger, till they have nearly reached their adult state. They are five years of arriving at perfection.

*Fortunate Recognition.*

The following act of generosity in a lioness, kept at the Tower, in 1773, is a proof that she, like her royal partner, is capable of evincing traits of noble feeling:—This animal had, for a considerable time, formed such an attachment for a little dog which was kept with her in the den, that she would not eat till the dog was first satisfied. When the lioness was near her time of whelping, it was thought advisable to take the dog away. Shortly after, when the keepers were cleaning the den, the dog, by some means, got into it, and approached the lioness with his wonted fondness, who was then playing with her cubs. She made a sudden spring at him, and, seizing the poor little animal in her mouth, seemed in the act of tearing him to pieces; but, as if she momentarily recollected her former fondness for him, carried him to the door of the den, and suffered him to be taken out unhurt.

### *Noble Generosity.*

Chernier, in his *Present State of Morocco*, says, "I have been assured that a Brebe, who went to hunt the lion, having proceeded far into a forest, happened to meet with two whelps of a lion that came to caress him. The hunter stopped with the little animals, and, waiting for the coming of the sire or the dam, took out his breakfast, and gave them a part. The lioness arrived, unperceived by the huntsman, so that he had not time, or perhaps wanted the courage, to take his gun. After having for some time looked at the man that was thus feasting her young, the lioness burst away, and soon after returned, bearing with her a sheep, which she came and laid at the huntsman's feet.

The Brebe thus become one of the family, took this occasion to make a good meal,—skinned the sheep, made a fire, and roasted a part, giving the entrails to the young. The lion, in his turn, came also; and, as if respecting the rights of hospitality, showed no tokens whatever of ferocity. Their guest, the next day, having finished his provisions, returned home, and came to a resolution never more to kill any of these animals, the noble generosity of which he had so fully experienced. He stroked and caressed the whelps at taking leave of them, and the dam and sire accompanied him till he was safely out of the forest.

### *Soliciting Succour.*

Part of a ship's crew being sent ashore on the coast of India, for the purpose of cutting wood, the curiosity of one of the men having led him to stray to a considerable distance from his companions, he was much alarmed by the appearance of a large lioness, who made towards him; but, on her coming up, his fear was allayed, by her lying

down at his feet, and looking very earnestly, first in his face, and then at a tree some little distance off. After repeating these looks several times, she arose, and proceeded towards the tree, looking back, as if she wished the sailor to follow her. At length, he ventured, and, coming to the tree, perceived a huge baboon, with two young cubs in her arms, which he immediately supposed to be those of the lioness, as she couched down like a cat, and seemed to eye them very steadfastly. The man, being afraid to ascend the tree, decided on cutting it down, and, having his axe with him, he set actively to work, when the lioness seemed most attentive to what he was doing. When the tree fell, she pounced upon the baboon, and, after tearing him in pieces, she turned round, and licked the cubs for some time. She then returned to the sailor, and fawned round him, rubbing her head against him in great fondness, and in token of her gratitude for the service he had done her. After this, she carried the cubs away one by one, and the sailor rejoined his companions, much pleased with the adventure.

### *Jealous Fury.*

A lion and lioness were kept in the menagerie of the Landgrave of Hesse Cassel, in two cages, close to each other, separated by a single grating, and communicating by means of a door, which could be opened whenever it was thought proper to let the two animals together. They were both very tame towards the keeper and his wife, who had the care of them. On one occasion, the latter having caressed the lion for a considerable time, the lioness observed it with evident marks of displeasure, and evinced an inclination to break through the grating, in order to get at her supposed rival. Unfortunately, the door by which the two cages communicated with each

other, not being properly secured, gave way, upon which the lioness entered the den of the lion, and flew at the woman, who would undoubtedly have fallen a sacrifice to her jealous fury, had not the lion immediately interposed and defended her.

### *Dreadful Ferocity.*

The Exeter mail-coach, on its way to London, was attacked on Sunday night, the 20th October, 1816, at Winter's-Law-Hut, seven miles from Salisbury, in a most extraordinary manner. At the moment when the coachman pulled up, to deliver his bags, one of the leading horses was suddenly seized by a ferocious animal. This produced a great confusion and alarm. Two passengers, who where inside the mail, got out, and ran into the house. The horse kicked and plunged violently; and it was with difficulty the coachman could prevent the carriage from being overturned. It was soon observed by the coachman and guard, by the light of the lamps, that the animal which had seized the horse, was a huge lioness. A large mastiff dog came up and attacked her fiercely, on which she quitted the horse, and turned upon him. The dog fled, but was pursued and killed by the lioness, within about forty yards of the place. It appears that the beast had escaped from a caravan, which was standing on the roadside, and belonged to a menagerie, on its way to Salisbury Fair.

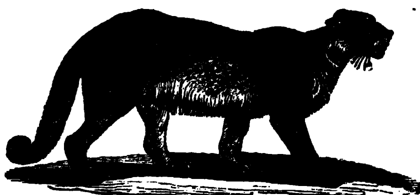
An alarm being given, the keepers pursued and hunted the lioness, carrying the dog in her teeth, into a hovel under a granary, which served for keeping agricultural implements. About half past eight, they had secured her effectually, by barricading the place, so as to prevent her escape.

The horse, when first attacked, fought with great spirit; and if he had been at liberty, would probably have

beaten down his antagonist with his fore feet; but in plunging, he embarrassed himself in the harness. The lioness, it appears, attacked him in front, and, springing at his throat, had fastened the talons of her fore feet on each side of his gullet, close to the head, while the talons of her hind feet were forced into the chest. In this situation she hung, while the blood was seen streaming, as if a vein had been opened by a lancet. The furious animal missed the throat and jugular vein; but the horse was so dreadfully torn, that he was not at first expected to survive. The expressions of agony, in his tears and moans, were most piteous and affecting.

Whether the lioness was afraid of her prey being taken from her, or from some other cause, she continued a considerable time after she had entered the hovel, roaring in a dreadful manner, so loud, indeed, that she was distinctly heard at the distance of half a mile. She was eventually secured, and taken to her den.

This lioness was considered a very domesticated creature; and, before this, had never manifested marks of ferocity. But this proves, that it is not safe to trust even the most docile of these animals.



THE PUMA; OR, SOUTH AMERICAN LION.

FELIS CONCOLOR.—*Linnæus.*

The length of the body of the puma is about four feet, and its height somewhat more than two feet. The tail is nearly two feet in length, without any tuft at its point. The head is round, the ears short; and the general colour of the fur brownish red. The belly is white, or pale cream colour. It has no mane, like the African and Asiatic lions.

The puma lives in high and mountainous tracts, which are covered with wood, in the warmer parts of the United States, and is common in South America. He is said to be fond of horse flesh above all other prey, but also feeds on all domestic, and also most wild animals which he is capable of overcoming. This species, although of small size, is extremely powerful; and, in attacking its prey, generally contrives to leap on the back of its victim, whom it seldom fails to vanquish. The wild ass is the only animal that can free itself of this hardy assailant, which it does, by running against the low branches of trees, and by this means either kills the puma, or compels him to quit his hold. Another expedient is, to lie down, and roll over the puma; and thus, not unfrequently, it crushes him to death.

Molina and D'Azara assert, that the puma will not attack man; but an incident related to Major Smith by Mr. Skudden, proves the contrary:—Two hunters having gone in quest of game to the Katskill mountains, New York, each armed with a gun, and accompanied by a dog, they agreed to go in contrary directions round the base of the hill, which formed one of the points of that chain of mountains; and it was settled that, if either discharged his piece, the other should hasten to the spot from whence the report proceeded as speedily as possible, to join in the pursuit of whatever game might fall to their lot. They had not been long asunder, when the one heard the other fire, and, agreeably to promise, hastened to join his companion. He looked for him in every direction; but to no purpose. At length, however, he came upon the dog of his friend, dead, and dreadfully lacerated. Convinced by this, that the animal his comrade had shot at, was ferocious and formidable, he felt much alarm for his fate, and sought after him with great anxiety. He had not proceeded many yards from the spot where the dog lay prostrate, when his attention was arrested by the ferocious growl of some wild animal. On raising his eyes to the spot from whence the sound proceeded, he discovered a large puma couching on the branch of a tree, and under him the body of his friend. The animal's eyes glared at him, and he appeared hesitating whether he should descend, and make an attack on the survivor also, or relinquish his prey, and decamp. The hunter, aware of the celerity of the puma's movements, knew that there was no time for reflection, levelled his piece, and mortally wounded the animal, when it and the body of the man fell together from the tree. His dog then attacked the wounded puma, but a single blow from its paw laid it prostrate. In this state of things,

finding his comrade was dead, and knowing it was dangerous to approach the wounded animal, he went in search of assistance, and, on returning to the spot, he found the puma, his friend, and the two dogs, all lying dead.

The skin of this animal is preserved in the New York museum, as a memorial of the story.

A puma having been taken in America, was ordered to be shot, immediately after, while taking some food. The first ball penetrated his body, which merely had the effect of making him utter a loud growl; after which, he ate his food with the most savage voracity and keenness, swallowing along with it quantities of his own blood, till he sunk under exhaustion.

This animal, in a state of captivity, loses all its natural fierceness. Buffon mentions one, that would allow himself to be patted by the hand, and he would even permit children to mount on his back, without any attempt to scratch or bite them. There was one kept alive for some time, in the College of Edinburgh, which was very tame, although not completely domesticated. Mr. Kean, the celebrated actor, also had a tame puma. This animal followed him, without exhibiting any proofs of wildness.

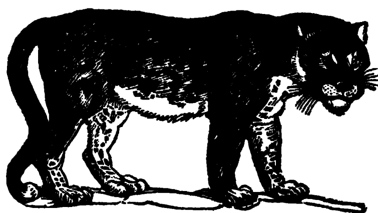
### *Remarkable Adventure.*

A dreadful famine raged at Buenos Ayres, during the government of Don Diego de Mendoza, in Paraguay; yet Don Diego, afraid to give the Indians a habit of spilling Spanish blood, forbade the inhabitants, on pain of death, to go into the fields, in search of relief, placing soldiers at all the outlets to the country, with orders to fire upon those who should attempt to transgress his orders. A woman, however, called Maldonata, was artful enough to elude the vigilance of the guards, and escape. After

wandering about the country for a long time, she sought shelter in a cavern; but she had scarcely entered it, when she became dreadfully alarmed, by espying a female puma. She was, however, soon quieted, by the animal approaching and caressing her. The poor brute was in a state, in which assistance is of the most service, and when rendered, is gratefully remembered, even by the brute creation. Of this, the puma gave her benefactress the most sensible proofs. She never returned from searching after her daily subsistence, without laying a portion of it at the feet of Maldonata, until, her whelps being strong enough to walk abroad, she took them with her, and never returned.

Some time after, Maldonata fell into the hands of the Spaniards; and, being brought back to Buenos Ayres, was conducted before Don Francis Ruez de Galen, who then commanded there. She was charged with having left the city, contrary to orders. Galen was a man of a cruel and tyrannical disposition, and condemned the unfortunate woman to a death, which none but the most cruel tyrant could have devised. He ordered some soldiers to take her into the country, and leave her tied to a tree, either to perish with hunger, or to be torn to pieces by wild beasts, as he expected. Two days after, he sent the same soldiers to see what had been her fate, when, to their great surprise, they found her alive and unhurt, though surrounded by pumas and jaguars, while a female puma, at her feet, kept them at bay. As soon as the puma saw the soldiers, she retired to some distance; and they unbound Maldonata, who related to them the history of this puma, whom she knew to be the same she had formerly assisted in the cavern. On the soldiers taking Maldonata away, the lioness approached, and fawned upon her, as if unwilling to part. The soldiers

reported what they had seen to their commander, who could not but pardon a woman who had been so singularly protected, without the danger of appearing more inhuman than pumas themselves.



THE PANTHER.

FELIS PARDUS.—Linnæus.

The length of the panther is fully six feet, exclusive of the tail, which is nearly three feet. The colour of the upper part of the body is bright tawny yellow, paler on the sides, and nearly white on the belly, and is beautifully marked on the sides, back, and flanks, with black spots, disposed in circles, from four to five in each, and a spot of the ordinary colour of its fur appearing in the centre. On the face, breast, and legs, the spots are single. The ears are short, and more pointed than those of the tiger.

The habits of the panther are so nearly allied to those of the tiger, that a distinct description of them is unnecessary. Some authors affirm, that he is even more voracious, and that his thirst for blood is almost insatiable. This, however, has not been observed with regard to all.

The panther is a native of Africa, and his physical range is widely extended, as he is found from Barbary to the remotest parts of Guinea. He is said seldom to prey on man, preferring the flesh of brutes.

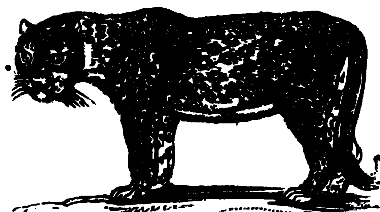
*Encounter with a Panther.*

The following interesting particulars of an encounter with one of these animals, are from the pen of a gentleman who witnessed it:—

"I was at Jaffna, at the northern extremity of the Island of Ceylon, in the beginning of the year 1819, when, one morning, my servant called me an hour or two before my usual time, with 'Master, master! people sent for master's dogs—tiger in the town!' Now, my dogs chanced to be some very degenerate specimens of a fine species, called the Poligar dog, which I should designate as a sort of wiry haired greyhound, without scent. I kept them to hunt jackals; but tigers are very different things. By the way, there are no real tigers in Ceylon; but leopards and panthers are always called so, and by ourselves as well as by the natives. This turned out to be a panther. My gun chanced not to be put together; and, while my servant was doing it, the collector and two medical men, who had recently arrived, in consequence of the cholera morbus having just then reached Ceylon from the Continent, came to my door, the former armed with a fowling-piece, and the two latter with remarkably blunt hog-spears. They insisted upon setting off, without waiting for my gun—a proceeding not much to my taste. The tiger (I must continue to call him so) had taken refuge in a hut, the roof of which, like those of Ceylon huts in general, spread to the ground like an umbrella; the only aperture into it was a small door, about four feet high. The collector wanted to get the tiger out at once. I begged to wait for my gun; but no—the fowling-piece, (loaded with ball, of course,) and the two hog-spears, were quite enough. I got a hedge-stake, and awaited my fate, from very shame. At this moment, to my great delight, there arrived from the fort an English officer, two artillerymen,

and a Malay captain; and a pretty figure we should have cut without them, as the event will show. I was now quite ready to attack, and my gun came a minute afterwards. The whole scene which follows took place within an enclosure, about twenty feet square, formed, on three sides, by a strong fence of palmyra leaves, and on the fourth by the hut. At the door of this, the two artillerymen planted themselves; and the Malay captain got at the top, to frighten the tiger out, by worrying it—an easy operation, as the huts there are covered with cocoa-nut leaves. One of the artillerymen wanted to go in to the tiger, but we would not suffer it. At last the beast sprang. This man received him on his bayonet, which he thrust apparently down his throat, firing his piece at the same moment. The bayonet broke off short, leaving less than three inches on the musket; the rest remained in the animal, but was invisible to us. The shot probably went through his cheek, for it certainly did not seriously injure him, as he instantly rose upon his legs, with a loud roar, and placed his paws upon the soldier's breast. At this moment, the animal appeared to me to about reach the centre of the man's face; but I had scarcely time to observe this, when the tiger, stooping his head, seized the soldier's arm in his mouth, turned him half round staggering, threw him over on his back, and fell upon him. Our dread now was, that, if we fired upon the tiger, we might kill the man. For a moment, there was a pause, when his comrade attacked the beast exactly in the same manner as the gallant fellow himself had done. He struck his bayonet into his head; the tiger rose at him—he fired; and this time the ball took effect, and in the head. The animal staggered backwards, and we all poured in our fire. He still kicked and writhed; when the gentlemen with the hog-spears advanced, and fixed

him, while he was finished by some natives beating him on the head with hedge-stakes. The brave artilleryman was, after all, but slightly hurt. He claimed the skin, which was very cheerfully given to him. There was, however, a cry among the natives, that the head should be cut off: it was; and, in so doing, *the knife came directly across the bayonet.* The animal measured little less than four feet, from the root of the tail to the muzzle. There was no tradition of a tiger having been in Jaffna before. Indeed, this one must have either come a distance of almost twenty miles, or have swam across an arm of the sea nearly two in breadth; for Jaffna stands on a peninsula, on which there is no jungle of any magnitude."



THE LEOPARD.

Felis Leopardus.—Desmarest.

The usual size of the leopard is about four feet in length, exclusive of the tail, which is about two feet and a half long; it is of a rich yellowish fawn colour, paler on the sides, and lost in the pure white of the belly. It is covered all over with numerous annular or oval black spots, and the sides and part of the tail are occupied by numerous distinct roses, formed by the near approach of three or four elongated small black spots, which surround a central area, about an inch or an inch and a quarter in breadth, of a somewhat deeper colour than the ground

on which it is placed. There are some black lines on the lips, and bands of the same colour on the inside of the legs; two or three imperfect black circles, alternating with white, also occur towards the extremity of the tail.

In habits this animal resembles those of its tribe already described, modified only by its being less powerful. He is, however, superior to them in one respect, namely, in the extreme pliability of his spine, which gives him a degree of velocity and agility surpassed by no other animal. He climbs trees with astonishing rapidity, so that few animals are safe from his ravages. Man alone seems to be respected by him; but, if pressed hard in the pursuit by the hunter, he will turn upon him, and it requires both skill and prowess to guard against the fury of his attacks. Many instances have occurred of man falling a victim to him, although he must in general be pressed to the onset. A few solitary instances have been known where the leopard has attacked the woodcutters, or the unwary traveller, and destroyed them, when impelled by hunger.

The range of the leopard is widely extended over the whole of the Old World, even more so than that of the lion himself.

In a captive state, the leopard is as domesticated as any of the cat tribe. There are at present in the Tower a pair of these animals, from Asia, confined in the same den. The female is very tame, and gentle in her temper, and will allow herself to be patted and caressed by the keepers, while she licks their hands, and purs. She, however, has one peculiarity, that she cannot bear many of the appendages which visitors bring with them to the menagerie. She has a particular predilection for the destruction of parasols, umbrellas, muffs, and hats, which she frequently contrives to lay hold of before the unwary

spectator can prevent it, and tears them to pieces in an instant. She has been five years in the Tower, during which time she has seized and destroyed several hundreds of these articles, as well as other parts of ladies' dress.

While this creature is in a playful mood, she bounds about her cell with the quickness of thought, touching the four sides of it nearly at one and the same instant. So rapid are her motions, that she can scarcely be followed by the eye; and she will even skim along the ceiling of her apartment with the same amazing rapidity, evincing great pliability of form and wonderful muscular powers.

The male has been about two years in the Tower, and is only beginning to suffer familiarities; but he seems jealous of the slightest approach. He is larger than the female, the colour of his skin more highly toned, and the spotting more intensely black.

"Their food consists of about five pounds of beef per day for each. This the keeper generally tosses up in the front of their den, at the distance of nearly two feet from the bars, and to the height of six or eight feet from the floor. The animals, who are on the alert for their dinner, immediately leap towards the bars, and, darting out their paws with incredible swiftness, almost uniformly succeed in seizing it before it falls to the ground. If, as it sometimes happens, the meat is thrown up at too great a distance, so as not to be fairly within reach, they remain perfectly stationary, and make no attempt to spring upon it, but watch it with anxious avidity, apparently calculating and comparing the distance of the object and the extent of their own grasp. When they have, in this way, secured their meal, instead of ravenously falling to, like the other carnivorous animals in the collection, they stand

growling over it for some minutes, leering upon each other with the most frightful contortions. This growling attitude of mistrust in feeding was constantly maintained by the female, even before she had a companion in her captivity, and when, consequently, there existed no immediate object for the excitement of her selfish or envious feelings."*

### *Horrid Carnage.*

In the year 1708, Kollen relates, that two leopards, a male and female, with three cubs, entered a sheepfold at the Cape of Good Hope. The old ones killed nearly a hundred sheep, and regaled themselves with the blood. When they were satiated, they tore a carcass into three pieces, and gave a part to each of their young ones. They then took each a whole sheep, and, thus laden, began to move off, but where discovered in their retreat; and the female, with the young ones, were killed, while the male effected his escape.

### *Leopard Hunting.*

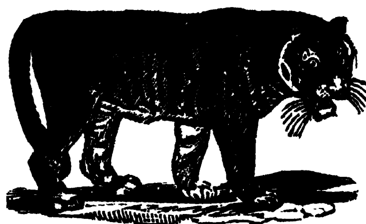
The following adventure took place in a frontier district of Southern Africa, in 1822, and was described by one of the two individuals so perilously engaged in it:—

Two boors returning from hunting the hartebeest, (the *antelope bubalis*,) fell in with a leopard in a mountain ravine, and immediately gave chase to him. The animal at first endeavoured to escape, by clambering up a precipice, but, being hotly pressed, and slightly wounded by a musket-ball, he turned upon his pursuers, with that frantic ferocity, which, on such emergencies, he frequently displays, and, springing upon the man who had fired at him, tore him from his horse to the ground, biting him at the same time very severely on the shoulder, and

* Tower Menagerie, p. 39.

tearing his face and arms with his claws. The other hunter, seeing the danger of his comrade, sprung from his horse, and attempted to shoot the leopard through the head; but, whether owing to trepidation, or the fear of wounding his friend, or the sudden motions of the animal, he unfortunately missed his aim.

The leopard, abandoning his prostrate enemy, darted with redoubled fury upon this second antagonist; and so fierce and sudden was his onset, that before the boor could stab him with his hunting-knife, he struck him in the eyes with his claws, and had torn the scalp over his forehead. In this frightful condition, the hunter grappled with the raging beast, and, struggling for life, they rolled together down a steep declivity. All this passed so rapidly, that the other man had scarcely time to recover from the confusion into which his feline foe had thrown him, to seize his gun, and rush forward to aid his comrade, when he beheld them rolling together down the steep bank, in mortal conflict. In a few moments he was at the bottom with them, but too late to save the life of his friend, who had so gallantly defended him. The leopard had torn open the jugular vein, and so dreadfully mangled the throat of the unfortunate man, that his death was inevitable; and his comrade had only the melancholy satisfaction of completing the destruction of the savage beast, which was already much exhausted by several deep wounds in the breast, from the desperate knife of the expiring huntsman.



THE TIGER.

Felis Tigris.—Linnæus.

The tiger is about the size of the lion, the body measuring usually about six feet from the muzzle to the root of the tail, which is about three feet in length, without any tuft at its point; the head is smooth, excepting about the cheeks and jaws, where the hair is long; the ears are small and rounded; the body is smooth; the fur is of a bright sienna yellow, deeper on the back, and gradually softening towards the belly, where it is white; a white stripe also extends from the ears to the throat; the whole of the head and body are covered with numerous transverse stripes of black, which generally have a line of fawn colour in their centre; the tail is also covered with somewhat distinct black annulations, having sienna coloured stripes in the centre of each ring; the legs are nearly white in the inside, and are partially striped with black, both internally and externally. There are, however, several varieties of this animal, differing in size, markings, and colouring.

The physical strength of the tiger is very great; and he can carry a man in his teeth, while he runs at a considerable speed; and is more nimble in his movements than the lion. He is the most rapacious and destructive of all carnivorous animals; with strength nearly equal to

that of the lion he seems to be much more ferocious; and certainly more to be dreaded by the human species.

The tiger is a native of all the countries of Southern Asia, which lie between the north of China, Chinese Tartary, and the Indies. He abounds in Bengal, Tonquin, and Sumatra, and is to be found on most of the larger islands in that side of India. He is the scourge of many districts, which are thickly covered with jungles, and forests.

Almost all naturalists, since the time of Buffon, have assented to his account of the tiger being the most ferocious of all beasts, and with a cruelty of disposition greater than any of his tribe, divesting him of every spark of kindly feelings, and without the noble forbearance of the lion. However, more attentive observations on his real character have been lately instituted, and he is found to be much upon a par with the king of the forest. He, however, differs from him in one particular; the lion assists the lioness in rearing her young, while the tiger generally forsakes the female at that time. The lioness is never known to destroy her progeny, while the tigress frequently does so. It cannot, however, be said that the ordinary character of the tigress is to be cruel to her young, for, in general, where tigers have produced in Europe, they have shown much anxiety regarding them. We are informed by Captain Williamson,* that he had two tiger cubs brought to him while quartered at Ramghur. They had been discovered, with two more, by some villagers, while their mother had been in quest of prey. The captain put them into a stable, where they were very noisy during night. A few nights having elapsed, their mother at length discovered where they

* Oriental Field Sports.

were, came to relieve them, and replied to their cries by tremendous howlings, which induced their keeper to set the cubs at liberty, lest the dam should break in. She had carried them off to a jungle adjoining before morning.

There appears to be no greater difficulty in rendering the tiger tame than the lion; for we have seen numberless instances of their docility, in a state of confinement. In India the faquirs, or priests of Hindostan, who roam about as mendicants, are generally accompanied by tame tigers. In the summer of 1830, when Mr. Wombwell was in Edinburgh, I happened one morning to visit his menagerie, when a young tiger, upwards of a year old, got out of his cage, but, in place of offering any injury to those who were present, he squatted down like a frightened cat, close below his cage; when the keepers came, he quietly allowed himself to be lifted into his apartment.

A young tiger, which was brought from China in the Pitt East Indiaman, at the age of ten months, was so tame as to admit every kind of familiarity from the people on board. It was as harmless and playful as a kitten. It frequently slept in the sailors' hammocks; and, when stretched on the deck, would allow two or three of them to repose, with their hands resting on it for a pillow. It was, like the cat, given to thieving, and frequently stole the sailors' meat. One day, having stolen a piece of beef from the carpenter, he followed it, and, after taking the flesh out of its mouth, beat it severely for the theft, which it suffered without offering to retaliate. It would frequently run out on the bowsprit, climb about the ship like a cat, and perform a number of tricks, with surprising agility. There was a dog on board, with which it would often play in the most diverting manner. This animal was placed in the Tower, where it remained

many years, and never evinced any ferocity. It was called Harry, and answered to this name like a dog.

The tiger has the same manner of attacking his prey as the lion, by lying in ambush, and springing upon it: indeed, this is the common practice of the whole cat tribe. The bound of the tiger is tremendous, and performed with astonishing speed, and to so great a distance, that few would credit it. It has been supposed by some writers, that the tiger derives his name from this circumstance, as in the Armenian language *tiger* signifies an arrow.

The tiger will not hesitate to take the water, if he sees an object worthy of attention on the opposite banks of a river.

Tiger hunting is a favourite amusement in India, both among the native princes and the English. The following picturesque account is given of one by the late Bishop Heber, of which he was an eye-witness:—

"At Kulleanpoor, the young Raja Gourman Singh mentioned, in the course of conversation, that there was a tiger in an adjoining tope, which had done a good deal of mischief; that he should have gone after it himself, had he not been ill, and had he not thought it would be a fine diversion for Mr. Boulderson, the collector of the district, and me. I told him I was no sportsman, but Mr. Boulderson's eyes sparkled at the name of tiger, and he expressed great anxiety to beat up his quarters in the afternoon. Under such circumstances, I did not like to deprive him of his sport, as he would not leave me by myself, and went, though with no intention of being more than a spectator. Mr. Boulderson, however, advised me to load my pistols, for the sake of defence; and lent me a very fine double-barrelled gun, for the same purpose. We set out a little after three on our elephants,

with a servant behind each howdah, carrying a large chatta, which, however, was almost needless. The Raja, in spite of his fever, made his appearance too, saying that he could not bear to be left behind. A number of people, on foot and horseback, attended from our camp and the neighbouring villages, and the same sort of interest and delight was evidently excited, which might be produced in England by a great coursing party. The Raja was on a little female elephant, hardly bigger than the Durham ox, and almost as shaggy as a poodle. She was a native of the neighbouring wood, where they are generally, though not always of a smaller size than those of Bengal and Chittagong. He sat in a low howdah,* with two or three guns ranged beside him, ready for action. Mr. Boulderson had also a formidable apparatus of muskets and fowling-pieces, projecting over his mohout's head. We rode about two miles across a plain covered with long jungly grass, which very much put me in mind of the country near the Cuban. Quails and wildfowl arose in great numbers, and beautiful antelopes were seen scudding away in all directions.

"At last the elephants all drew up their trunks into the air, began to roar, and stamp violently with their fore feet. The Raja's little elephant turned short round, and, in spite of all her mohout (driver) could say or do, took up her post, to the Raja's great annoyance, close in the rear of Mr. Boulderson. The other three (for one of my baggage elephants had come out too, the mohout, though unarmed, not caring to miss the show) went on slowly, but boldly, with their trunks raised, their ears expanded, and their sagacious little eyes bent intently for-

* The howdah is a seat somewhat resembling the body of a gig, and is fastened by girths to the back of the elephant.

ward. 'We are close upon him,' said Mr. Boulderson; 'fire where you see the long grass shake, if he rises before you.' Just at that moment my elephant stamped again violently. 'There, there!' cried the mohout; 'I saw his head.' A short roar, or rather growl, followed, and I saw immediately before my elephant's head, the motion of some large animal stealing through the grass. I fired as directed, and, a moment after, seeing the motion still more plainly, fired the second barrel. Another short growl followed; the motion was immediately quickened, and was soon lost in the more distant jungle. Mr. Boulderson said,—'I should not wonder if you hit him that last time; at any rate, we shall drive him out of the cover, and then I will take care of him.' In fact, at that moment, the crowd of horse and foot spectators at the jungle side began to run off in all directions. We went on to the place, but found it was a false alarm; and, in short, we had seen all we were to see of him, and went twice more through the jungle in vain.

"I asked Mr. Boulderson, in our return, whether tiger-hunting was generally of this kind, which I could not help comparing to that chase of bubbles, which enables us in England to pursue an otter. In a jungle, he answered, it must always be pretty much the same, inasmuch as, except under very peculiar circumstances, or when a tiger felt himself severely wounded, and was roused to revenge by despair, his aim was to remain concealed, and to make off as quietly as possible. It was after he had broken cover, or when he found himself in a situation so as to be fairly at bay, that the serious part of the sport began, in which case, he attacked his enemies boldly, and always died fighting. He added, that the lion, though not so large or swift an animal as the tiger, was generally stronger and more courageous. Those which

have been killed in India, instead of running away when pursued, through a jungle, seldom seem to think its eover necessary at all. When they see their enemies approaching, they spring out to meet them, open-mouthed, in the plain, like the boldest of all animals, a mastiff dog. They are thus generally shot with very little trouble; but, if they are missed, or only slightly wounded, they are truly formidable enemies. Though not swift, they leap with vast strength and violence; and their large heads, immense paws, and the great weight of their body forwards, often enable them to spring on the head of the largest elephants, and fairly pull them down to the ground, riders and all. When a tiger springs on an elephant, the latter is generally able to shake him off under his feet; and then, wo be to him! The elephant either kneels on him, and crushes him at once, or gives him a kick, which breaks half his ribs, and sends him flying perhaps twenty paces. The elephants, however, are often dreadfully torn; and a large old tiger sometimes clings too fast to be thus dealt with. In this case, it often happens, that the elephant himself falls, from pain, or from the hope of rolling on his enemy; and the people on his back are in very considerable danger, both from friends and foes; for Mr. Boulderson said, the scratch of a tiger was sometimes venomous, as that of a cat is said to be. But this did not often happen; and, in general, persons wounded by his teeth or claws, if not killed outright, recovered easily enough."

### *Tiger and Elephants.*

Father Tachard gives an account of a battle between a tiger and two elephants, at Siam, of which he was an eye-witness. The heads, and parts of the trunks, of the elephants, were defended from the claws of the tiger, by a

covering made for the purpose. They were placed in the midst of a large enclosure. One of them was suffered to approach the tiger, which was confined by cords, and received two or three heavy blows from the trunk of the elephant upon its back, which beat it to the ground, where it lay for some time, as if it were dead; but, though this attack had a good deal abated its fury, it was no sooner untied, than, with a horrible roar, it made a spring at the elephant's trunk, which that animal dexterously avoided, by drawing it up into the air. The two elephants were then allowed to come up, and, after giving it several heavy blows, would undoubtedly have killed it, if an end had not been put to the combat. Under such restraints and disadvantages, we cannot wonder that the issue was unfavourable to the tiger. We may, however, by this judge of its strength and fierceness, since, after being disabled by the first attack of the elephant, whilst it was held by the cords, it should venture to continue so unequal an engagement.

### *Great Muscular Powers.*

A buffalo, belonging to a peasant in the East Indies, having fallen into a quagmire, the man was himself unable to extricate it, and went to call the assistance of his neighbours. Meanwhile, a large tiger, coming to the spot, seized upon the buffalo, and dragged him out. When the men came to the place, they saw the tiger, with the buffalo thrown over his shoulder, in the act of retiring with him towards the jungle. No sooner, however, did he observe the men, than he let fall the dead animal, and precipitately escaped. On coming up, they found the buffalo quite dead, and his whole blood sucked out.

Some notion may be conceived of the immense power of the tiger, when it is mentioned, that the ordinary

weight of a buffalo is above a thousand pounds, and consequently considerably more than double its own weight.



*Conflict with a Tiger.*

Lieutenant Collet, of the Bombay army, having heard that a very large tiger had destroyed seven inhabitants of an adjacent village, resolved, with another officer, to attempt the destruction of the monster. Having ordered seven elephants, they went in quest of the animal, which they found sleeping beneath a bush. Roused by the noise of the elephants, he made a furious charge upon them, and Lieutenant Collet's elephant received him on her shoulder, the other six having turned about, and run off, notwithstanding the exertions of their riders. The elephant shook off the tiger, and Lieutenant Collet having fired two balls at him, he fell; but, again recovering himself, he made a spring at the lieutenant. Having missed his object, he seized the elephant by the hind leg, and, having received a kick from her, and another ball, he let go his hold, and fell a second time. Supposing that he was now disabled, Collet very rashly dismounted, with the resolution of killing him with his pistols; but the tiger, who had only been crouching to take another spring, flew upon the lieutenant, and caught him in his mouth. The strength and intrepidity of the lieutenant,

however, did not forsake him: he immediately fired his pistol into the tiger's body, and, finding that this had no effect, disengaged his arms with all his force, and, directing the other pistol to his heart, he at last destroyed him, after receiving twenty-five severe wounds.

### *Presence of Mind.*

A company, seated under the shade of some trees near the banks of a river in Bengal, were alarmed by the unexpected sight of a tiger, preparing for its fatal spring, when a lady, with almost unexampled presence of mind, unfurled a large umbrella in the animal's face, which, being confounded by so extraordinary and sudden an appearance, instantly retired, and thus afforded them an opportunity of escaping from its terrible attack.

### *Knowing Stratagem.*

M. Dellon, of the French factory at Tilsceri, kept a tiger for several months, which was secured by a strong chain. This animal was cunning enough to scatter a portion of the rice that was set before him, as far around the front of his den as possible. This enticed the poultry to come and pick it up. The tiger pretended to be asleep, in order to induce them to approach nearer, when he suddenly sprang upon them, and seldom failed to make several of them his prey.

### *Cruel Exhibition.*

Some years ago, a tame tiger was led about Madras by some of the natives, without any other restraint than a muzzle, and a small chain about his neck. The former was only rendered necessary, from the particular manner in which they had trained the animal. They lived by exhibiting, to the curious, the tiger's method of seizing

his prey. The manner in which they showed this, was by fastening a sheep with a cord to a stake driven into the ground. The tiger was no sooner brought in sight of it, than he crouched, and moved along the ground on his belly, slowly and cautiously, till he came within the limits of a bound, when he sprung upon it with the rapidity of an arrow, and struck it dead in an instant. He then seized it by the throat with his teeth, rolled on his back, supporting the sheep on his breast, and drawing his hind legs up near the throat of the animal, fixed his claws firmly into it, and then forcing his legs backwards, tore it open in an instant. This animal would yield up the carcass, on a small piece of meat being thrown down to it.



THE JAGUAR.

FELIS ONCA.—Desmarest.

The figure represented is the black variety of the jaguar, which has been denominated by naturalists the black tiger. This animal is of a uniform dark blackish brown on the head, and along the back, sides, and outer surface of the legs; the throat, breast, belly, and inside of the legs, being of a dark ash colour; the upper lip is white, furnished with long whiskers; above each eye it has

very long and stiff hairs, and a black spot at the corner of the mouth; its ears are rather long and sharp pointed; and its paws white. In some specimens, the black jaguar is covered with indistinct spots.

The colour of the ordinary variety of the jaguar is of a brownish yellow, variegated on the upper parts of the body with open circles of black, with a central spot; the circles themselves disposed in five or six parallel horizontal lines; the thighs and legs are also spotted with black, but these have no central spaces; the breast and belly are very pale yellow, nearly approaching to white. The size of the jaguar is about the same as that of a large wolf; he is much more robust than the leopard; and his limbs are very powerfully made.

Jaguars are solitary creatures, living in pairs; inhabiting the thickly wooded forests on the banks of rivers in South America. They are the most formidable animals of that country. They are very bold, and will attack cattle of all kinds, whom they seldom fail to conquer: horses seem to be their favourite food; but, when pressed by hunger, they will attack man. D'Azara mentions, that during his residence at Paraguay, six men were destroyed by these animals; two of whom were even seized and carried off in the night, while sitting by a blazing fire.

The jaguar is an excellent swimmer, and is said to attack and overcome the alligator, of whose flesh he is very fond.

As an instance of the physical powers of the jaguar, D'Azara mentions, that having heard of a horse being attacked by one, he hastened to the spot, where he found him dead, and part of the breast already devoured; but the jaguar had fled, on seeing him approach. He got the body of the horse dragged within musket shot of a large

tree, where he intended to pass the night, in hopes of shooting the jaguar, which he had no doubt would return to fetch its prey. He went away to prepare himself for the adventure, leaving a man concealed to watch the carcass. He had not been long gone before the jaguar made his appearance, from the opposite side of a broad and deep river, about sixty paces from the banks of which the horse lay. He approached, and, seizing it in his teeth, pulled it to the river, and swam across with his prey; dragged it out of the water, and drew it into a neighbouring wood.

M. Sonnini mentions, that in a journey through the extensive forests of Guiana, he, and the party by whom he was accompanied, were much annoyed by one of these animals, who continued to follow them in their route, for two successive nights; and who evaded every effort, on their part, to destroy him. They kept up very large fires to scare him, and he, at length, took his departure, after uttering a horrid howl of disappointment.

### *Expert Climbers.*

The astonishing powers of the jaguar in climbing lofty trees, is very remarkable. Some of the stumps of the mighty trees which compose the extensive forests of South America, are free from branches, to the distance of fifty feet from the ground, and the bark of some is nearly as smooth as glass. M. Sonnini observed, while travelling through that country, the marks of the claws of the jaguar at the top of some of the highest trees; and although it was quite apparent that the animal had slipped more than once, in his attempt to gain the branches, which was quite perceptible, from the deep ruts his claws had made in the bark, yet he had ultimately gained his object, no doubt in pursuit of some favourite prey.

## THE OUNCE.

FELIS UNCIA.—Gmelin.

The ounce is smaller than the leopard, being only three feet and a half in length from the nose to the tail, and the tail itself about two feet and a half. He is long-backed, and short-legged. The hair is long, and of a light gray colour, tinged with yellow; somewhat lighter on the breast and belly; the head is marked with small round spots; behind each ear there is a large black spot; the back is beautifully varied with a number of oval figures formed by small spots almost touching each other; the spots on the sides are more irregular; those on the legs and thighs small, and thinly dispersed; the tail is full of hair, irregularly marked with large black spots. This animal is said to be more gentle in its manners than the leopard. It is a native of many parts of Africa, such as Barbary, Arabia, and Persia; and is to be found in Asia, as far as China. It is frequently trained to the chase, like the hunting leopard.

## THE OCELOT.

FELIS PARDALIS.—Linnæus.

The ocelot is one of the most beautiful of its tribe, and is less than the leopard, its length being about three feet, exclusive of the tail, and its height about eighteen inches. The colour of its fur is gray, slightly tinged with pale fawn; the whole body and legs are covered with longitudinal chain-like stripes, broken into patches of some inches; black at the margins, and pale inside, with an open space in the centre, of the ordinary ground colour

of the fur; on the neck and head these black lines have no central opening. The colours of the female are less vivid than those of the male.

This animal is a native of South America, where it frequents the depths of the forest, living upon deer and birds. It seldom attacks man, although instances have occurred of its doing so. When hunted, and overtaken, it defends itself with great obstinacy. Its natural disposition, however, is timid and rather cowardly.

The ocelot seems less susceptible of domestication than the other members of the cat tribe. In confinement it is in a state of perpetual motion, and will not submit to the caresses of its keeper. A male and female ocelot were brought to France about twenty years ago, which had been taken when very young. At the age of three months, they became so strong and fierce, as to kill a bitch, by which they were nursed. When a live cat was thrown to them, they immediately pounced upon it, sucked its blood, but left the flesh untouched. The male seemed to have a great superiority over the female, as he never allowed her to partake of a meal till he was satisfied.

D'Azara mentions an ocelot, which was so completely domesticated, as to be left at perfect liberty; it seemed strongly attached to its master, and never attempted to escape.

## THE LYNX.

### Felis Lynx.—Linnæus.

The usual length of the lynx is about two feet six inches, its tail six, and its height sixteen inches. The ears are erect, and have a long pencil of black hairs at their tip.

The fur is long, thick, and soft, of a grayish ash colour on the upper parts, with a reddish tinge, marked with dusky spots; the under parts are white, which differ much according to the age of the animal, as sometimes they are scarcely visible. The legs and feet are thick, short, and strong, covered with long fur; and the tail black at its extremity. The eyes are of a pale yellow, a colour not favourable to powerful vision, yet the créature is proverbial for its piercing sight. There was one of these lately in the Zoological Gardens of London, which had not any strong expression, or brilliancy of the eye; so that, in all probability, this is only one of the remains of ancient fable.

The fur of the lynx is valuable, on account of its great softness and warmth, and is in consequence an extensive article of commerce. It inhabits the northern parts of Europe, Asia, and America; and prefers cold or temperate climates, differing in this respect from most of the cat tribe. Lynxes conceal themselves in thick forests, prey upon stags, roebucks, hares, and other animals, and climb with facility up the highest trees after birds and squirrels.

The general disposition of this animal is like that of his congeners, and, like them, he may be tamed if properly treated.

## THE SERVAL.

### Felis Galeopardus.—Desmarest.

The serval is somewhat larger than the ordinary wild cat. Its general colour is a pale fulvous yellow on the back and sides, covered with small round black spots, equally divided over the whole surface, except on the

middle of the back, where they are disposed in four rows: the breast and belly are white and immaculate; its eyes are very brilliant, and have a wild and piercing look; its whiskers are very long, stiff, and nearly straight; its tail is short, spotted in some individuals, and annulated in others with black.

This species inhabits the mountainous parts of India, and is called by the natives of Malabar, the *Marapute.* It resides on trees, where it makes a bed, and breeds its young. It seldom appears on the ground, living principally on birds, squirrels, and small animals; it is extremely agile, and leaps, with great rapidity, from one branch to another. The serval never assaults man, but rather endeavours to avoid him; if, however, it is compelled to attack, it darts furiously on its antagonist, and bites and tears, like the rest of the cat kind.

## THE MARGAY.

### Felis Margay.—Cuvier.

The margay is about the size of the wild cat, and resembles it very much in disposition. The upper part of the body is yellowish gray, and the under parts white; four blacks lines pass from the vertex to the shoulders, and then change into a series of long streaks; the tail is irregularly annulated.

The margay, which has also been denominated the tiger cat and the Cayenne cat, is subject to considerable variety of colour. It is common in Brazil and Guiana, and various other parts of South America; seeming to prefer a warm to a temperate climate.



## THE DOMESTIC CAT.

FELIS CATUS.—Linnæus.

The cat, like most of our domestic animals, has been so long in the service of man, that all traces of its original country are lost; it is, however, supposed first to have been brought to England from the Island of Cyprus, by some foreign merchants, who came hither for tin.

Montenegro presented to the elder Almagro the first cat which was brought to South America, and was rewarded for it with six hundred pesos.

The first couple of cats which were carried to Cuyaba, sold for a pound weight of gold. As there was a plague of rats in the settlement, these cats were purchased as a speculation, which proved an excellent one. The first kittens were sold for the sum of thirty oitavas each. The next generation were worth twenty; and the price gradually fell as the inhabitants became stocked with these beautiful and useful creatures.

Camden records a story similar to that famous one of Whittington and his Cat,—"How Alphonse, a Portuguese, being wrecked on the coast of Guinea, and being presented, by the king thereof, with his weight in gold, for a cat to kill their mice, and an ointment to kill their flies, which he improved within five years, to six thousand pounds on the place, and, returning to Portugal, after fifteen years traffic, became the third man in the kingdom."

By a note in Pope's Works, we find that, when a shipwreck occurs on the shores of Cornwall, if there is a living creature on board, a cat or a dog, at the time of the stranding, it is not considered in law as a wreck, or a Godsend, as the Cornish people call it; nor can it be claimed by the Duke of Cornwall, or the Arundel family.

A cat was a *sine qua non* to a witch. These animals were anciently revered as emblems of the moon; and, among the Egyptians, were on that account so highly honoured, as to receive sacrifices and devotions, and had stately temples erected to their honour. It is said, that in whatever house a cat died, all the family shaved their eyebrows.

We are informed by Browne, in his *Natural History of Jamaica*, that cats are considered a very dainty dish among the negroes; and Goethe, in his *Rifleman's Comrade*, says,—"At Palermo, some of the soldiers caught a cat belonging to a convent, and, having skinned the carcass, it was cut into pieces, and soaked twenty-four hours in vinegar, then anointed with garlic and honey, until the strong flavour had left it, after which it formed an excellent *fricassee*. To be serious," continues our author, "I can assure my readers, that the flesh of a well fed cat is extremely good. It is indeed, (presuming her to be properly dressed,) not only agreeable in taste, but actually a dainty; and it is imagination and prejudice alone which protect the feline race amongst us from the uses of the gastronomic art."

The popular belief, that cats can see in the dark, is erroneous, as can be proved by a principle in optics that is perfectly established. All objects become visible from the rays of light that flow from them into the pupil of the eye, and a picture of such objects is formed in the retina: therefore, where there is no light, there can be

no vision.. The cat, however, from the particular construction of its eyes, is capable of seeing with much less light than most other animals.

Cecco maintained, that nature was more potent than art, while Dante asserted the contrary. To prove his principle, the great Italian bard referred to his cat, which, by repeated practice, he had taught to hold a candle in its paw, while he supped or read. Cecco desired to witness the experiment, and came not unprepared for his purpose. When Dante's cat was performing its part, Cecco, lifting up the lid of a pot which he had filled with mice, the creature of art instantly showed the weakness of a talent merely acquired; and, dropping the candle, sprung on the mice, with all its instinctive propensity. Dante was himself disconcerted; and it was adjudged, that the advocate for the occult principle of natural faculties, had gained his cause.

Cats, they say, have nine lives. So, indeed, they ought, if they are to be used thus: M. L'Abbé Fontence was in the habit of experimenting on these animals, one of which *he found could exist twenty-six months without drinking*.

Cats are, in general, averse to taking the water. We have, however, various instances of their being good swimmers and divers. The cat is very susceptible of cold. It is fond of certain perfumes; but is more particularly attracted by the smell of valerian, marum, and cat-mint. It rubs itself against them, and repeats this so often, that many plants of these have been destroyed in consequence.

Although the cat has not the same natural and unshaken attachment for mankind as the dog, yet many unequivocal proofs of regard and affection are found.

The cat is possessed, as well as the dog, of an instinctive

faculty, by which it can find its way through a country, over which it has never before travelled: they have even been known to cross rivers, taking the most direct route to the place for which they are bound. This extraordinary faculty in brutes has never been satisfactorily accounted for.

There are few animals which have a stronger attachment for their young than the cat; and she has frequently been known to transfer her affections to other young animals, and to nurture them with much assiduity. Mr. White justly remarks,—"Why so cruel and sanguinary a beast as a cat, of the ferocious genus *felis*, the *murium leo*, as Linnæus calls it, should be affected with any tenderness towards an animal which is its natural prey, is not so easy to determine."

This animal generally produces young two or three times in a year. The period of gestation is fifty-five or fifty-six days, and she usually brings forth five or six at a litter.

Cats are very particular in keeping their fur clean and dry. If one is taken into a dark room, and the hairs rubbed the reverse way to which they naturally lie, very distinct electric sparks will be seen to escape.

*Peter King and his Cats.*

We are told, that Mr. Peter King, who died at Islington, in 1806, had two tom cats, that used to be set up at table with him at his meals; and it farther appears, that as Mr. King was a great admirer of fine clothes richly laced, he thought his cats might like them too. The grimalkins were accordingly measured, and wore rich liveries, until they departed for the paradise of brutes, which some eccentric authors have maintained is provided for them. (Should there be an Elysium of this sort, we may observe,

that hackney coach-horses ought to be the first and best provided for, living such a miserable life here.)

### *Mrs. Griggs and her Cats.*

Our domestic friend, grimalkin, is not so unimporant an animal as some would imagine. She is not only, while living, stuffed with dainties, by very reverend old maids, who have this mania upon them, but is also stuffed, after death, to stare at us in glass cases, with glass eyes, just like life. The old story of Whittington and his Cat, which has delighted millions of little boys and girls, has, perhaps, caused more interest for puss, than their actual use, viz. frightening away and killing rats and mice. Still, a *cat mania* is a singular thing; and we freely own, that our antipathies would be as great at encountering a colony of cats, as a horde of wild Indians. That there has been such an eccentric *penchant*, is made out in the case of a Mrs. Griggs, of Southampton Row, who died on the 16th January, 1792. Her executors found in her house *only* eighty-six living, and twenty-eight dead cats. This lady, who died worth £30,000, left her black servant £150 per annum, for the maintenance of the eighty-six surviving grimalkins and himself.

Pope also records an instance of a famous Duchess of R——, who bequeathed considerable legacies and annuities to her cats.

### *Feline Fishers.*

"There is a propensity belonging to common house cats," says Mr. White, "that is very remarkable; I mean their violent fondness for fish, which appears to be their most favourite food; and yet nature, in this instance, seems to have planted in them an appetite that, unassisted, they know not how to gratify; for, of all quadrupeds,

cats are the least disposed towards water, and will not, when they can avoid it, deign to wet a foot, much less to plunge into that element. Mr. Leonard, a very intelligent friend of mine, saw a cat catch a trout, by darting upon it in a deep clear water, at the mill at Weaford, near Lichfield. The cat belonged to Mr. Stanley, who had often seen her catch fish in the same manner, in summer, when the mill pool was drawn so low, that the fish could be seen. I have heard of other cats taking fish in shallow water, as they stood on the bank. This seems to be a natural method of taking their prey, usually lost by domestication, though they will retain a strong relish for fish. The Rev. W. Bingley mentions another instance of a cat freely taking the water, related by his friend, Mr. Bill, of Christ Church. When he lived at Wallington, near Carshalton, in Surrey, he had a cat that was often known to plunge, without hesitation, into the river Wandle, and swim over to an island, at a little distance from the bank. To this there could be no other inducement, than the fish she might catch on her passage, or the vermin that the island afforded. These are curious instances; but the following, which may be depended upon as a fact, is still more remarkable: at Caverton Mill, in Roxburghshire, a beautiful spot upon the Kale Water, there was a favourite cat, domesticated in the dwelling-house, which stood at two or three hundred yards from the mill. When the mill work ceased, the water was, as usual, stopped at the dam-head; and the dam below, consequently, ran gradually more shallow, often leaving trout, which had ascended when it was full, to struggle back with difficulty to the parent stream; and so well acquainted had puss become with this circumstance, and so fond was she of fish, that the moment she heard the noise of the mill-clapper cease, she used to

scamper off to the dam, and, up to her belly in the water, continued to catch fish, like an otter. It would not be easy to cite a more curious case of animal instinct approaching to reason, and overcoming the usual habits of the species."*

### *Feline Marine Fisher.*

A still more extraordinary circumstance of a cat's propensity for fishing is recorded in the *Plymouth Journal*, June, 1828:—

"There is now at the battery on the Devil's Point, a cat, which is an expert catcher of the finny tribe, being in the constant habit of diving into the sea, and bringing up the fish alive in her mouth, and depositing them in the guard-room, for the use of the soldiers. She is now seven years old, and has long been a useful caterer. It is supposed that her pursuit of the water-rats first taught her to venture into the water, to which it is well known puss has a natural aversion. She is as fond of the water as a Newfoundland dog, and takes her regular peregrinations along the rocks at its edge, looking out for her prey, ready to dive for them at a moment's notice."

### *Remarkable Foster-mother.*

A cat, belonging to a person in Taunton, in May, 1822, having lost her kittens, transferred her affections to two ducklings, which were kept in the yard adjoining. She led them out every day to feed, seemed quite pleased to see them eat, returned with them to their usual nest, and evinced as much attachment for them, as she could have shown to her lost young ones.

* Natural History of Selborne.

### *Old Sparrows are not caught with Straws.*

A cat, belonging to an elderly lady in Bath, was so attached to her mistress, that she would pass the night in her bedchamber, which was four stories high. Outside of the window was the parapet wall, on which the lady often strewed crumbs for the sparrows that came to partake of them. The lady always sleeping with her window open, the cat would pounce upon the birds, and kill them. One morning, giving a "longing, lingering look" at the top of the wall, and seeing it free from crumbs, she was at a loss for an expedient to decoy the feathered tribe, when, reconnoitering, she discovered a small bunch of wheat suspended in the room, which she sprang at, and succeeded in getting down. She then carried it to the favourite resort of the sparrows, and actually thrashed the corn out, by beating it on the wall, then hiding herself. After a while, the birds came, and she resumed her favourite sport of killing the dupes of her sagacity.

### *Cat and Chicken.*

In the summer of 1792, Mr. B——, a gentleman who lived in the neighbourhood of Portsmouth, had a cat, which kittened four or five days after a hen had brought out a brood of chickens. As he did not wish to keep more than one cat at a time, the kittens were all drowned, and the same day the cat and one chicken were missed. Diligent search was immediately made in every place that could be thought of, both in and out of the house, to no purpose; it was then concluded that some mischance had befallen both. Four days afterwards, however, the servant having occasion to go into an unfrequented part of the cellar, discovered, to his great astonishment, the cat lying in one corner, with the chicken hugged close to

her body, and one paw laid over it, as if to preserve it from injury. The cat and adopted chicken were brought into a closet in the kitchen, where they continued some days, the cat treating the chicken in every respect as a kitten. Whenever the chicken left the cat to eat, she appeared very uneasy, but, on its return, she received it with the affection of a mother, pressed it to her body, purred, and seemed perfectly happy. If the chicken was carried to the hen, it immediately returned to the cat. The chicken was by some accident killed, and the cat would not eat for several days afterwards, being inconsolable for its loss.

### *A Fickle Mother.*

A cat, belonging to Mr. Michel, dentist, of York Street, having kittened at the same time that his bitch had whelped, absolutely forsook her own offspring, and suckled and reared one of the pups.

### *Curious Discovery.*

In June, 1822, as the house of Mr. Budd, of Shepton Mallet, was undergoing repair, between the ceiling and roof, which is thatched, and which had not been opened or repaired for forty years, the workmen found the skeleton of a rat, and about five inches behind it the skeleton of a cat, and behind that the skeleton of a second cat. It is supposed that the cats followed the rat till they could get no farther, nor return.

### *Has a Cat Nine Lives?*

A cat, belonging to Mr. Oram, of New George Inn, Tunbridge, was missing on one occasion, and, after a lapse of *nine* days, it was discovered in an unoccupied room, hanging by the neck from a hole in the ceiling,

through which it had pushed its head, probably in pursuit of prey. The creature was carefully extricated from its perilous situation, alive; and, although the neck was much lacerated, and the head much swollen, with great care and attention it recovered its wonted strength.

### *Bell Ringers.*

A family were accustomed to feed their cat in the dining-room every day, while they were at dinner. Puss was so well acquainted with the sound of the bell, which announced that the meal was on the table, that she never failed to repair thither regularly with the family. By accident, one day, she was shut up in a room by herself, where she remained undiscovered till dinner was over. Some hours afterwards, however, she was emancipated from her confinement, when she hastened to the room, but found nothing reserved for her. Hungry and disappointed, she ran to the bell, and began tumbling it about, with the intention of ringing it; but it proved too unwieldy for her. A cat in Arch street, Philadelphia, has acquired the habit of pulling a bell wire running through a secluded room, whenever she wishes to get out.

### *Strong Natural Affection.*

In June, 1825, a farmer, residing in the neighbourhood of Ross, sent a load of grain to Gloucester, a distance of about sixteen miles. The wagoners loaded in the evening, and started early in the morning. On its being unloaded at Gloucester, a favourite cat, belonging to the farmer, was found among the sacks, with two kittens of very recent birth. The wagoner very humanely placed puss and her young in a hay-loft, where he expected they would remain in safety, until he should be ready to depart for home. On his return to the loft shortly after-

wards, neither cat nor kittens were to be found, and he reluctantly left town without them. Next morning she entered the kitchen of her master's house with one kitten in her mouth. It was dead; but she placed it before the fire, and without seeking food, or indulging, for a moment, in the genial warmth of her domestic hearth, she disappeared. In about an hour she returned with the other kitten, laid it down by the hearth, stretched herself beside them, and instantly expired! The poor creature could have carried but one at a time, and, consequently, must have travelled three times over the whole line of her journey, and performed forty-eight miles in less than twelve hours.

### *Cat and Leveret.*

Mr. White mentions, in his *Natural History of Selborne*, that he had a friend who got a helpless leveret brought to him, which the servants fed with milk in a spoon; and, about the same time, his cat kittened, and the young were despatched and buried. The hare was soon lost, and supposed to be gone the way of most foundlings, to be killed by some cat or dog. However, in about a fortnight, as the master was sitting in his garden, in the dusk of the evening, he observed his cat, with tail erect, trotting towards him, and calling with little, short, inward notes of complacency, such as they use towards their kittens, and something gamboling after, which proved to be the leveret, that the cat had supported with her milk, and continued to support with great affection.

Thus was a granivorous animal nurtured by a carnivorous and predaceous one! This strange affection was, probably, occasioned by those tender maternal feelings which the loss of her kittens had awakened, and by the

complacency and ease she derived from the procuring of her teats to be drawn, which were too much distended with milk. From habit, she became as much delighted with this foundling, as if it had been her real offspring. They sometimes nurse young rats.

### *Feline Madness.*

Cats, as well as dogs, are liable to madness. In May, 1830, a young man, of Camberwell, was brought to St. Thomas's Hospital, London, labouring in the last stage of hydrophobia. He had been bitten in the hand by a cat, about five months before that time.

### *Exhibition of Cats.*

On the 11th April, 1831, an exhibition of cats (six in number) was opened in Edinburgh by a company of Italians. These animals gave astonishing proofs of their intelligence. They were kept in a large sparred box, and individually came forth, at the command of the exhibitor, and seemed perfectly to understand their duty. These well tutored creatures beat a drum, turned a spit, struck upon an anvil, turned a coffee roaster, and rang bells. Two of them, who seemed to be more sagacious than the rest, drew a bucket, suspended, by a pully, in the manner water is raised from a draw well. The length of the rope was about six feet; and they perfectly understood when the bucket was high enough, when they stopt pulling. In the greater part of their performances, they stood on their hind legs. An instance was remarked of great cunning in one of the animals, which was not at the time employed, but was in its box, and seemed to know, that its companion, who was employed in drawing the water, would be rewarded the second time with a small bit of meat, which was put into the bucket. It

came slyly out, and, when the bucket was on a level with the place where it was sitting, caught hold of it with its claws, and purloined the beef. There was also in the exhibition, a tame white rat, which the exhibitor brought out of a box, and desired one of the cats to kiss it, when it immediately licked the cat all over. He afterwards put it on the cat's head, and it walked over her body, without seeming to give her any unpleasant sensation. One of the cats would turn a wheel, only when a piece of meat, stuck on a spit, was put before it; but the instant it was removed, she stopt, and however loudly the exhibitor called to it, and even threatened to whip it, no attention was paid to his orders, till the meat was replaced.



## Genus PHOCA.—Linnæus.

*Generic character.* The teeth of this genus vary much in the different species. The incisors $\frac{6}{4}$, or $\frac{6}{2}$, or $\frac{4}{4}$; also differing in form; canine teeth $\frac{1\,1}{1\,1}$, strong, conical, and slightly curved; the grinders are $\frac{5\,5}{5\,5}$, or $\frac{6\,6}{5\,5}$, or $\frac{6\,6}{6\,6}$; total 30, 34, 36, or 38. The grinders are all cutting or conical. The head is round, and the snout elongated, with strong mustachios; the nostrils capable of being completely closed; the eyes large; and without any external ears; the feet have five toes each; the anterior extremities having a fin-like hand, and the posterior, feet only; the phalanxes of both enveloped in the skin; the tail short and thick; they have four abdominal teats.

The form of the animals constituting this genus seems to have been a secondary consideration with Cuvier, who has constructed his genus from the dentition alone.



THE COMMON SEAL.

PHOCA VITULINA.—Linnæus.

The ordinary length of the seal is from five to six feet; the head is large and round, and the neck short and thick; on each side of the mouth are several long and stiff whiskers, each hair being marked, throughout its whole length, by numerous alternate dilations and contractions; there are also a few stiff hairs over each eye; the tongue is cleft at the tip; the legs are so short, as to be scarcely perceptible; the hinder ones are so placed, as to be of use to the animal in swimming, but of very little service when walking, being situated at the extremity of the body, and close to each other. All the feet are strongly webbed, but the hind ones much more widely and conspicuously than the fore, having considerably the appearance of fins; each foot is furnished with strong and sharp claws; the tail is very short. The hair of the seal is short and very thick set, varying, in colour, from brown, blackish brown, gray, and sometimes pied, with fawn colour and white.

The seal has a very offensive fishy smell; and when collected in numbers on the shore, their odour can be felt at a considerable distance.

This animal spends a great part of its time in the water, although it can live perfectly well on land. In summer, they are frequently to be seen, on some sand

bank, which has been left dry by the reflux of the tide; or on some shelving rocks, basking in the sunbeams. It is in these situations that the seal is killed by their hunters. They never enjoy a long state of repose, being very watchful, probably from having no external ears to catch the sound; so that every minute or two they raise their heads, and look round. When they observe an enemy approaching, they suddenly precipitate themselves into the water. The seal swims with great swiftness, dives rapidly, and may be seen rising at a distance of forty or fifty yards, in the course of a few seconds. The food of the seal consists of fish, and various sea weeds.

The female produces in the winter, seldom more than two at a birth, which she is said to suckle on the spot for a fortnight only. When the young are fatigued with swimming, the parent carries them on her back.

The voice of a full grown seal resembles the hoarse barking of a dog, and that of the young is like the mewing of a kitten.

Seals, when taken young, are capable of being completely domesticated; will answer to their name, and follow their master from place to place.

The skins of seals form a very important article of commerce; on which account, they are eagerly sought for in many places. They are also valuable for producing oil. The time of hunting them is in October and November. It is generally done by lighting torches, and going into caverns on the sea shore, where these animals repose during the night; the creatures, being thus surprised, endeavour to retreat in all directions, which the hunters prevent, by knocking them on the head with bludgeons.

Hunting the seal forms an important occupation of the native Esquimaux and Greenlanders. They feed upon

its flesh, make oil of its fat, and clothing of its skin; and even barter the latter to a considerable extent, with vessels which annually go to those places for the purpose.

In Finland this is also a favourite and profitable occupation. When the ice begins to break up, a few men go to sea in a small boat, and, in their hazardous pursuit, brave all the horrors of the northern seas; floating amid broken fields of ice, which every instant threaten the annihilation of their slender bark. The seals in these situations are frequently reposing on shoals of ice, on which some of the party land, and, creeping on their hands and feet, cautiously steal upon them, and kill the animals while they sleep.

### *A Domesticated Seal.*

About twenty-five years ago, a seal was so completely domesticated, that a gentleman kept it at a little distance from the sea. This animal seemed to know all the inmates of his family; it was frequently allowed to immerse itself in a barrel of sea water, which it would do several times during the day. It was perfectly acquainted with its name, and would come to its master when he called on it. It was usually kept in a stable, but was sometimes permitted to enter the kitchen, where it semed to take great delight in reposing before the fire. It was taken to the sea almost every day, and allowed to fish for itself, in which it was very dexterous; but when unsuccessful, fish was bought for it. When tired of swimming, it came to the boat, holding up its head to be taken in.

### *A Tame Seal.*

In January, 1819, a gentleman, in the neighbourhood of Burntisland, county of Fife, in Scotland, completely succeeded in taming a seal. Its singularities attracted

the curiosity of strangers daily. It appeared to possess all the sagacity of a dog, lived in its master's house, and ate from his hand. In his fishing excursions, this gentleman generally took it with him, when it afforded no small entertainment. If thrown into the water, it would follow for miles the track of the boat; and although thrust back by the oars, it never relinquished its purpose. Indeed, it struggled so hard to regain its seat, that one would imagine its fondness for its master had entirely overcome the natural predilection for its native element.

## THE SEA-BEAR.

PHOCA URSINA.—Linnæus.

This animal is of great size, the male measuring about eight feet in length, and the female generally about six feet. Their bodies are thick, somewhat conical, or tapering towards the tail; their greatest circumference is about the shoulders; the weight of a male is about eight hundred pounds. The head is round, and the neck very thick; the muzzle projecting considerably, and the forehead rising abruptly over the eyes; the lips are thick, and serrated in the inside; the whiskers are long, and white; the eyes are furnished with a fleshy membrane, answering the purpose of an eyelid, with which they are frequently covered; the eyes are large and prominent; the iris black, and the pupil emerald green; the ears are small and sharp pointed; the length of the fore leg, which is not so much concealed below the skin as in the other seals, is about two feet; the feet are like the fins of turtles, formed with toes, which are covered with a naked skin; and they have no nails; the hind legs are twenty-two inches in length, and fixed to the body behind; but they have the power of bringing them forward; so that,

by bending their neck, they are enabled to scratch their head with them; they have five toes, separated by a web; a foot broad at their anterior extremities; the tail is only two inches long, being out of all proportion with the size of this large animal. The general colour of the sea-bear is black, the hairs of old ones being tipped with gray; the hair is long and rough, and, beneath, it is of a soft downy texture, of a bay colour; the hair on the neck of the male is erect, somewhat resembling a mane; the females are generally ash coloured; the flesh of the female sea-bear is said to be rather palatable, approaching the taste of lamb, and that of the young like the flesh of a sucking pig.

These huge animals are inhabitants of the sea, in the neighbourhood of Kamschatka, and also New Zealand, where they are to be seen lying in thousands along the shore, in distinct families, of from ten to fifty females, each attended by a male, who guards his flock with the assiduity and jealousy of an eastern monarch; and when intruded on by another male, a dreadful conflict ensues, which generally sets the whole colony in a state of tumult. The wounds they give each other are very deep, and resemble the cut of a sabre.

The sea-bears grow very fat, and are then exceedingly indolent, sometimes even scarcely moving from the same spot for two or three months. This is from June to September, during which time they breed, the female bringing forth one at a birth, and rarely two. She is extremely attached to her young, and defends it with great obstinacy. Professor Steller says, that the cubs, when little more than a day old, become playful, and exercise themselves in wrestling with each other. The sea-bear is an obstinate animal, and does not fly at the approach of man; on the contary, they go and meet him,

forming themselves into a body, and resist any attempt on his part to proceed. When a company of travellers meet these animals on the shore, they are forced to fight their way through them; and if the bears are pelted with stones, they gnaw them with their teeth, but afterwards attack the men with redoubled fury, rending the air with the most tremendous growling. These animals seem to be well aware of the effect of united resistance and attack, and also of the utility of keeping in masses and ranks; for should any one of them attempt to retreat, those in his rear fall upon and compel him to keep in the ranks, or kill him. Sometimes it happens, that when one bear attemps to stop another, who is retreating, they all begin to suspect each other of being inclined to fly, and, in that case, the contest often becomes universal. When two are fighting with one, the rest come to the assistance of the weaker side. Whilst they are thus fighting upon the land, others that are in the water raise their heads, and look on for a while, till they also become enraged, swim to shore, and join in the combat.

When two have fought together for some time, and get out of breath, they lay themselves down, side by side, lick each other, and rest themselves, after which they rise again to continue the contest. As long as they are nearly a match for each other in strength, they strike only with their fore feet; but, as soon as one of them gains the superiority, he seizes the other with his teeth, and throws him on the ground. When others, who have been spectators of the fight, see this, they come up and assist the vanquished combatant.

In the month of September these animals quit their breeding stations, and return to the Asiatic and American shores; but are never to be found, except between

the latidudes 50° and 56°. They swim with great swiftness, frequently at the rate of eight miles an hour.

## THE BOTTLE-NOSED SEAL.

PHOCA ANSONII.—Dasmarest.

The male of the bottle-nosed seal measures from fifteen to twenty feet in length, and is distinguished from the female by a projecting snout, which hangs several inches over the under jaw: the upper part consists of a loose wrinkled skin, which the animal can inflate when angry. The feet are short, and the hind ones webbed, somewhat like fins. The whiskers are long and thick. The general colour is of a rusty brown. The female never exceeds eighteen feet in length; her nose is blunt and tuberous at the top; the nostrils are wide; the mouth small.

The bottle-nosed seal inhabits the seas about New Zealand, and the Falkland Islands. They are to be met with in immense bodies at Juan Fernandez, during the breeding season, which is in June and July. The females usually produce two at a birth, which is rare with animals of so large a size: they are very fierce while suckling their cubs.

It is easy to kill these animals, for they are of a very lethargic nature, owing to their excessive fatness. The blubber contained between the skin and the flesh of a full grown seal, is, at least, a foot in thickness; and when the animal is in motion, it has the appearance of a large skin filled with oil, the tremulous motion beneath the surface being quite perceptible. A single animal has been known to yield a butt of oil.

The flesh of this animal is said to be very good, and was eaten by Lord Anson's sailors, who gave it the

name of beef, to distinguish it from that of the common seal. When on shore, the bottle-nosed seal feeds on grass, and reposes in the most elevated place it can find. They fight with astonishing obstinacy, and more especially for the females; and, like the sea-bears, the heards are usually headed by a single male. The noise of this creature is a kind of loud grunting, which they never fail to exert on the approach of an enemy, and may be heard at a great distance.

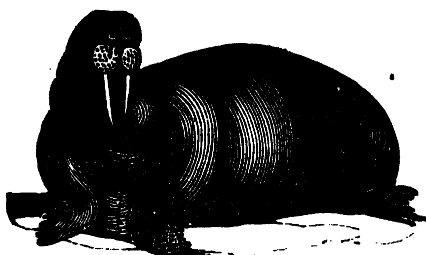
### *Dreadful Conflict.*

On the 21st June, 1818, no fewer than two hundred and six seals, comonly called the bottle-nosed seal, came into Stornoway harbour, when a desperate battle ensued between them. The inhabitants of the place, taking advantage of the conflict, attacked them with axes, swords, and knives, so that few of these extraordinary combatants escaped. Some of them measured above twenty feet in length, by fifteen in circumference.



## GENUS TRICHECUS.—LINNÆUS

*Generic character.* The incisory teeth $\frac{2}{0}$; canine teeth $\frac{1\,1}{0\,0}$; grinders $\frac{6\,6}{5\,5}$; total 24; the incisory teeth are small and deciduous; the superior canines, or tusks, very large, somewhat longer than the head, compressed and laterally arched; the grinders are of a cylindrical shape, with their upper surface obliquely truncated; the body is long and conical; the head is round; the muzzle large, without any external ears; the tail is short; the fore feet paddle shaped, armed with five short claws; the hind feet are horizontal, with five toes, enveloped in the skin.



THE WALRUS

TRICHECUS ROSMARUS.—Gmelin.

This is one of the most clumsy animals in nature, with a head uncommonly small for the size of the body; the neck is short; the lips are very thick,—the upper one cleft, studed with strong semitransparent bristles, as thick as a crow quill, about three inches long, and slightly pointed at the extremities. The body is thick, and gradually tapering towards the tail. The skin of the whole animal is thick, and somewhat wrinkled on various parts of the body, covered with short brownish hair. This enormous animal sometimes measures eighteen feet in length, and from ten to twelve in circumference, over the chest.

Sir Everard Home has discovered, that the hind foot of the walrus has an apparatus like that of the foot of a fly, by which it is enabled to carry on progression against gravity. In its operations, it resembles that of a cupping-glass. In its bony structure, it has a striking resemblance to the human hand.

The walrus is a harmless creature, and inhabits the seas about North America, Davis's Straits, Hudson's Bay, and Greenland, and also in the Gulf of St Lawrence. It is a gregarious animal, and is often met with in immense numbers. They will never make an attack; but when roused, are very fierce and vindictive. The females

generally repose on the ice with their young; and, if attacked, they convey the cubs to the water, and then return to avenge any injury they have sustained; when wounded, they have been known to dive to the bottom, and bring up a host of others to join them in an attack, when their roaring is fearfully wild, and all the time they gnash their teeth violently.

Early in the spring the walruses, from almost every quarter, congregate in the Gulf of St Lawrence, spreading themselves over the group called the Magdalene Islands, which seem highly calculated to supply their wants, as they abound in a great variety of large shell-fish; and from the shores being of a gentle slope, with few precipitous rocks, they are enabled easily to scramble on shore, where they remain occasionally for many days without food, when the weather is fine; but on the slightest appearance of rain, they precipitate themselves into the sea. In former times, before the Americans made a traffic of the oil of the walrus, they have been known to assemble in these islands, to the amount of eight or ten thousand; but their numbers are now much decreased in that quarter. The natives of these islands do not attack the walruses on their first arrival, but allow them to repose quietly for some time, and frequently show themselves, to accustom them not to be afraid of men.

At a fixed time, the people assemble in boats, and land in the dark, near the place where many of these animals are reposing, and separate those that are farthest inland from those that are next the water. This is termed making a *cut* by these fishermen; and a dangerous enterprize it is; for many fall victims to their combined fury. They kill as many as possible of those next the water, and then attack the others. The creatures get bewildered, from the darkness of the night, and the effect of torch light; and,

straying farther from the water, become an easy prey. Sometimes, in a single attack of this kind, from a thousand to fifteen hundred have fallen victims in one night.

The first operation is to skin the animal, and cut it into slices, of two or three inches in breadth. These are imported to America for carriage traces; and the short pieces are sent to England, for making into glue. They then remove the coat of fat which lies under the hide, melt it into oil, of which each walrus produces nearly two barrels. The tusks, which weigh from ten to twelve pounds each, are then sawn off, and sell at pretty high prices, as they are ivory of a very hard texture, and much used by dentists, in making artificial teeth. The weight of a walrus is from fifteen hundred to two thousand pounds.

In early times this animal was called a horsewhale, and seems to have been known in England so early as the year 890, during the reign of King Alfred; for we are informed by Hakluyt, during that year, a voyage was made beyond the North Cape, by Octher, the Norwegian, "for the mere commoditie of fishing of horse-whales, which have in their teeth bones of great price and excellence; whereof he brought some on his returne unto that king." The same author says, that the skins of horse-whales and seals were converted into cables of sixty ells in length, by the natives of northern Europe.



## Genus KANGURUS.—Geoffroy.

*Generic character.* Incisory teeth $\frac{6}{2}$; no canine teeth; the grinders are $\frac{5\,5}{5\,5}$; the head is elongated; the ears are large and pointed; the eyes large; the fore legs are very short, with five toes, which have strong claws. The

hind legs are very strong, and long, having four toes only; the two inner are small, united; the central one very large, and strongly clawed; the outer toe, moderate; the metatarsus is very long and thin; the sole of the foot is applied its whole length to the earth. The tail is long, very strong, and not prehensile, but is made use of to assist it in leaping. The female is furnished with an abdominal pouch, in which are situated the teats.



THE GREAT KANGUROO.

KANGURUS HABIOTUS.—Geoffroy.

The great kanguroo has been known to measure nine feet from the point of the nose to the tip of the tail, and to weigh a hundred and fifty pounds. The upper parts of the body are light in comparison with the lower. The head is somewhat like that of a deer, with a mild expression; the ears are moderately large, slightly sharpened at their tips; the eyes are large and brilliant, and the mouth rather small; the neck is thin and finely proportioned; the fore legs are about nineteen inches in length; and the hinder ones three feet and a half; the latter are bare, and callous, granulated beneath, and very strong; and, when sitting erect, the animals rest on the whole of

their length; the lower point of the rear being elevated several inches from the ground. The hind feet are not unlike those of birds. From the breast downwards, the body gradually enlarges, till it reaches the lower part of the abdomen, where it is thickest, and again decreases towards the tail. This member is very strong, and is used by the animal in assisting it to bound, and as a weapon of defence,—the animal sometimes striking a man's leg with such force, as to break it. This species is of a mouse colour, inclining to white on the abdomen.

Although the general position of the kanguroo, when at rest, is a sitting posture, supported on the hind legs, which lie flat on the ground from the hock joint, yet it frequently places its fore feet on the ground also, and thus feeds in the manner of other quadrupeds. It drinks by lapping.

The kanguroo is naturally a timid animal, and flies at the approach of man. In New Holland this creature is hunted with greyhounds, and affords an agreeable pastime to the settlers. It does not run like other quadrupeds, but progresses by quick, repeated bounds, of more than twenty feet, and no obstacle of nine or ten feet can obstruct its flight, for it will leap over any object of that height with the greatest ease. It is hunted silently, for it has surpising quickness of hearing. When a dog finds his game, the chase begins, the kanguroo hopping, and the dog running at his full speed; so that in a thickly wooded country like New Holland they are quickly out of view.

The female kanguroo produces but one at a birth, which is excessively small. The young one remains in the abdominal pouch till it has grown to a considerable size. It frequently leaves this comfortable retreat for exercise or amusement; and, after the usual time of aban-

doning it altogether, on being alarmed, it will often return to it for safety. This species burrows in the ground, in a hole formed by itself.

Kanguroos exist entirely on vegetables,—chiefly on grass. They are gregarious, and may be seen feeding in herds of from thirty to fifty.

This extraordinary species was introduced to the notice of naturalists by the memorable voyage of discovery to the Pacific Ocean, when Cook first circumnavigated the globe, in 1770. It was discovered by some of his people, in New South Wales,—a country replete with new and highly curious objects of natural history; many of them with forms entirely new, and characters differing from every other part of the world.



THE VIRGINIAN OPOSSUM.

DIDELPHIS VIRGINIANA.—CUVIER.

The peculiar pouch by which the opossum is distinguished has induced naturalists to place it, with the kanguroo and a few other animals resembling it in this particular, as a distinct group, termed *Marsupiata,* from the Latin *marsupium,* a purse. The propriety of this classification is much disputed, especially as these animals differ in their habits; the opossum, for example,

being a carnivorous,* and the kanguroo an herbivorous, animal.

Opossums are found only in America. The singular manner in which they bring up their young has been noticed by most travellers. It is remarkable that the pouch of the female, in which the little ones are reared, is susceptible of being firmly closed at the will of the animal. M. D'Azara observes, they are so common that they are frequently seen dead about the villages and even in the streets of Monte Video; and he speaks of one which had thirteen young, then about half the size of the mother. They had ceased to suck, and indeed the pouch, which they no longer attempted to enter, could not have contained them; but the mother carried them about, with difficulty, fixed to her tail, legs, and body.

The head of the Opossum is long and pointed; the eyes are small, and project much, without any external lid; the sense of smelling is most delicate and advantageous to the animal; the tongue is roughened; the ears close by a peculiar muscular apparatus. The sense of touch is principally in the toes, which are covered with a very delicate skin, and furnished underneath with tubercles, too complicated for description here. There are five toes on each foot, provided with rather feeble claws, the thumb of the hind foot excepted; the latter being opposable to the other toes, and forming a genuine hand. There are some weak mustachios on the upper lip, above the eye, and on the cheek. The tail may be considered

* Mr. Bennett, however, observes, that "the forms of the teeth are so modified in the opossums as to effect a considerable diminution of the carnivorous character; while the increase of their number, which surpasses that of any other quadruped, also contributes to the same end." When the dentition is perfect, they have no less than fifty teeth.

as an appendage of the organs of motion; it is prehensile and very strong. The sound of the opossum's voice resembles the hissing of a cat in anger. The animal is about a foot and a half in length, and the mean height is about eight inches. Its main defence is the disagreeable odour which it emits when in danger. Living chiefly in trees, its tail is of essential service in climbing, and, when frightened, the little ones will speedily attach themselves to their mother by leaping on her back, and twisting their tails with hers. Mr. Cunningham tells us that in New South Wales are grey ring-tailed opossums, which twist their tails round a tree from which they leap, swinging themselves towards another; and white flying opossums with a web, like a bat's wing, stretched between their fore and hind feet, which enables them to fly from tree to tree. The settlers hunt them in fine moonlight evenings. On these occasions the dogs chase the opossum till it runs up a tree, at the root of which they stand and bark, when the sportsman either knocks it down with a stick, cuts down the tree, or shoots the animal with a musket, having a bright or chalked barrel to enable him to take a better aim.

Dr. Godman has accurately illustrated the habits and general economy of the opossum. As a specimen of the peculiar powers of what we have termed a genuine hand, he observes, "An opossum can cling by these *feet*-hands to a smooth silk handkerchief, or a silk dress, with great security, and climb up by the same. In like manner he can ascend by a skein of silk, or even a few threads. The slightest projection, or doubling of any material, affords him a certain mean of climbing to any desired height. Another curious and amusing peculiarity is his prehensile tail; by simple curving this at the extremity, the opossum sustains his weight, and depends from a

limb of a tree, or other projecting body, and hanging in full security, gathers fruit, or rifles a bird's nest of its eggs, or seizes any prey within his reach; to regain his position on the limb, it is only necessary to make a little stronger effort with the tail, and throw his body upward at the same time." The extreme thinness of the ears, the delicate covering of the nose, and the projecting whiskers or bristles, are thought by Dr. Godman to furnish the opossum with the perfection of the sense of touch, and considered with its nocturnal habits, "all these arrangements appear to have immediate reference to the safety of the animal, furnishing the means of directing its course, and warning it of the presence of bodies which otherwise might not be discovered until too late." Again, "the mouth of the opossum is very wide when open, yet the animal does not drink by lapping, but by suction. The wideness of the mouth is rendered very remarkable when the female is approached, while in company with her young. She then silently drops the lower jaw to the greatest angle it is capable of moving, retracts the angles of the lips, and shows the whole of her teeth in formidable array. She then utters a muttering kind of snarl, but does not snap, until the hand, or other object, be brought very close. At the same time, the young, if they have attained any size, either exhibit their signs of defiance, take refuge in the pouch of the mother, or, clinging to various parts of the body, hide their faces amidst her long hair."

"The opossum is generally killed for the sake of its flesh and fat. Its wool is of considerable length and fineness during the winter season;" and Dr. Godman thinks that "in manufactures it would be equal to the sheep's wool which is wrought into coarse hats." In its search for food, it commits much havoc among the

poultry-yards, as, "like the weasel, this animal is fonder of cutting the throats and sucking the blood of a number of individuals, than of satisfying his hunger by eating the flesh of one." Dr. Godman describes the hunting of the opossum, which, as we have before stated, is usually by moonlight. "The opossum, as soon as he discovers the approach of his enemies, lies perfectly close to the branch, or places himself snugly in the angle, where two limbs separate from each other. The dogs, however, soon announce the fact of his presence, by their baying, and the hunter, ascending the tree, shakes the branch upon which the animal is seated with great violence, to alarm, and cause him to relax his hold. This is soon effected, and the opossum, attempting to escape to another limb, is pursued immediately, and the shaking is renewed with greater violence, until at length the terrified quadruped allows himself to drop to the ground, where hunters or dogs are prepared to dispatch him.

"Should the hunter, as frequently happens, be unaccompanied by dogs when the opossum falls to the ground, it does not immediately make its escape, but steals slowly and quietly to a little distance, and then gathering itself into as small a compass as possible, remains as still as if dead. Should there be any quantity of grass or underwood near the tree, this apparently simple artifice is frequently sufficient to secure the animal's escape, as it is difficult by moonlight, or in the shadow of the tree, to distinguish it; and if the hunter has not carefully observed the spot where it fell, his labour is often in vain. This circumstance, however, is generally attended to, and the opossum derives but little benefit from his instinctive artifice.

"After remaining in this apparently lifeless condition

for a considerable time, or so long as any noise indicative of danger can be heard, the opossum slowly unfolds himself, and creeping as slowly as possible upon the ground, would fain sneak off unperceived. Upon a shout, or outcry, in any tone, from his persecutor, he immediately resumes his deathlike stillness and attitude. If then approached, moved, or handled, he is still seemingly dead. This feigning is repeated as frequently as opportunity is allowed him of attempting to escape, and is so well known to the country-folks, as to have long since passed into a proverb: 'He is playing *possum*,' is applied with great readiness by them to any one who is thought to act deceitfully, or wishes to appear what he is not."*

Dr. Godman possessed an opossum which was taken young and tamed. It would follow the inmates of his house with great assiduity, and complain with a whining noise when left alone. As it grew older it became more mischievous, from its restless curosity, and there seemed to be no possibility of devising any contrivance effectually to secure it. Thus, opossums frequently escape from captivity, and are no more heard of. Dr. Godman says, "in some such instances these animals have escaped in the city, and for a long time have taken up their quarters in cellars, where their presence has never been suspected, as during the day they remained concealed. In this way it is very probable that there are many still living in the city of Philadelphia, obtaining food in abundance by their nightly labours."

The species figured is very abundant in the United States, and is one of the largest of the group. It is usually of a dull white colour, but the young are pure white.

* Opossums are also so very tenacious of life, that, in North Carolina, there is a well known adage, "If the cat has nine lives, the opossum has nineteen."

Each eye is encircled with brown. The whiskers are red and white, and the point of the nose of a yellow tinge. The ears are black, with yellowish tips, and the legs of deep brown. The tail has long hair at the base, but elsewhere has only bristles between its whitish scales. It sees but imperfectly during the daytime, and at night seeks its food by mounting trees, entering farmyards, attacking small birds and poultry, sucking their blood and devouring their eggs: reptiles, insects, and fruits are also occasionally its food.



THE WOMBAT.

PHASCOLOMYS WOMBAT.—Péron.

This is one of the marsupial animals of New Holland. It is about the size of a badger. It burrows in the earth, and lives upon vegetables, either green or withered. Its colour is a brownish cinnamon, rather paler under the neck and round the ears than elsewhere. It burrows rapidly, so that it is not very frequently met with. The colonists call it the bear, from a slight resemblance in its form to that of a small brown bear. It is not, however, allied to that animal either by anatomical structure or habits. Indeed, we find it described in Cuvier's "Règne Animale" as a species isolated in nature, forming the type of a genus, and itself solely constituting that genus. Its relations with other mammalia are so remote that it is uncertain to what order it should be referred.

It is true it carries its young in a pouch, like the opossum; but this family is so far from being governed by the laws that regulate the animal kingdom in general, that its leading character does not necessarily suppose the presence of any other.

There were two males of this species in the French Menagerie, brought by Captain Baudin from the south of New Holland. They did not live long. Though tamed, they appeared rather to be habituated to the presence of men in general than to distinguish or know them as individuals. All their motions were excessively slow. They seemed to be but little attracted by what passed around them. They suffered themselves to be carried off without resistance, and when set again on the ground they moved no faster than before. Blows even appeared not to excite in them either fear or anger, nor is it probable that any animal exists more completely passive.

Peron says that the flesh of the wombat is tender and delicate, and that the animal is to be met with as familar as a dog. The climate of New Holland differs so little from that of Europe, that the wombat might easily be imported here, and become naturalized. Sir Everard Home had one in his possession, in England, for some time, which was fed in winter with hay.



## GENUS CASTOR.—LINNÆUS.

*Generic Character.* Incisory teeth $\frac{2}{2}$; canine teeth $\frac{0\,0}{0\,0}$; grinders $\frac{4\,4}{4\,4}$; total 20. The incisory teeth are very strong, with a flat anterior surface, and the posterior angular. The grinders have a fold, or ridge of enamel, on the

internal edge, and three similar folds on the outer edge of the upper teeth, which are inverted in the lower ones; the eyes are small; the ears are short and round; each of the feet has five toes, the anterior short and close, and the posterior longer and palmated. The tail is large, flat, and scaly. There is a pouch filled with an unctuous secretion, near the root of the tail in the male.



THE BEAVER.

CASTOR FIBER.—Linnæus.

The ordinary length of the beaver is about three feet. The tail is different from that of every other quadruped. This organ is about half the length of the body, compressed horizontally, broadly dilated, oval, flattened both above and below, covered at its base with hair, similar to that on the other parts of the animal, but all the other parts of it invested with a scaly substance, like that of fishes. The feet of the anterior extremities, small, and shorter than those of the posterior, and divided almost to the base, while the latter are united to their tips by a strong web, which permits their separation to a considerable extent, forming a broad and palmated expansion, similar to that of birds which swim. The nails are thick and strong; and that of the second toe of the hinder foot remarkable for being cleft. The fur is of a very fine, smooth, glossy, chestnut colour, varying sometimes to

black, and in a few solitary instances to white, cream-coloured, and rarely pied. The eyes of the beaver are placed rather laterally, and very small in size; the ears are short, and nearly hid in the fur; the muzzle is deep, oblique, and obtuse; and the fissure of the upper lip vertical.

The beaver is an animal which naturally excites in man a curiosity to know its history and habits, from the important use of its very fine and valuable fur. It is also remarkable, as producing a secretion which is often successfully employed in medicine; and, perhaps, not less on account of its extraordinary instinct, in building a habitation, formed with architectural regularity. Although many of the lower animals possess this sort of intelligence, certainly there is none so curious as that of the beaver; but in this alone does he display any mark of sagacity.

This animal spends a great part of his time in the water, for which his peculiar conformation admirably adapts him; and he swims and dives with astonishing dexterity. He always selects for his abode the side of a lake or river, where the water is deep under the bank, and which keeps at a pretty uniform height. They usually choose the northern side, in consequence of its exposure to the sun; and they always prefer the bank of an island to any other situation, as being more secure from the attacks of enemies. In this respect, however, their instinct often misleads them; for they have been known to select situations where no fish were to be found, and, consequently, have been obliged to change their residence, or submit to famine.

When beavers have fixed their habitation on the banks of a shallow stream, which is subject to fluctuations, from a failure of the supply of water, they begin their

operations by first throwing a dam across it, a little way below the part they intend to occupy. Where the river is slow, it is made nearly straight; but where the current is strong, it is formed with a curve, larger, or smaller, in proportion to its rapidity; the convexity of which is always turned towards the stream. This dam they construct with branches of trees and willow boughs, thickly intermingled with mud and stones; it is formed in the shape of a mound, thicker at the bottom, and gradually tapering towards the summit, which they make perfectly level, and of the exact height of the water. These dams are constructed with such solidity, that Captain Cartwright informs us he has walked over them. The sticks employed for constructing them are from the thickness of a man's thumb to that of his ankle. These the beavers bring from the adjacent woods, gnawing them off with wonderful dexterity. A beaver will cut through a branch, the thickness of a walking stick, with its teeth, at a single effort, and as neatly as if it had been done by a gardener's pruning knife. If it becomes necessary to use larger trunks, which is sometimes the case, owing to local circumstances, they gnaw them round near the base, and take care that their operations shall be so conducted as to make them fall towards the river, to lessen, as much as possible the labour of removing them. The operation of cutting must be performed with great rapidity, as many trees are frequently used by them in one season. When a tree has fallen, their first operation is to remove all its branches, and drag them to the stream, throwing them into the water above the dam, and they consequently float down to it.

The houses of the beavers are formed exactly of the same materials as the dams. If the bank be abrupt, they are built immediately under it, but if flat, at some little

distance, on the surface of the ground, the floor being so high above the level, that it cannot be flooded. They commence their operations by hollowing out the earth, and forming walls with it, mixed with small sticks and stones. When they have constructed the groundwork and walls, they then proceed to roof it in. This is always in the shape of a dome, generally elevated from four to seven feet above the water. There is a projection formed, which slopes for several feet into the stream, with a regularly inclined plane, so deep as to be beyond the depth at which the water can freeze. Each dwelling has from one to three of these, which are termed angles by the beaver hunters. When beavers form a settlement, they begin to construct their houses in summer; and it generally costs them a whole season to complete their buildings, and lay up a stock of provisions for the winter: this consists of the bark, and tender branches of trees, cut into lengths, and stored up near their domicile under the water, above whose surface it is sometimes raised. The willow, poplar, and birch supply their favourite kind of bark; in summer, they feed also on the water lily, and berries.

The inside of their habitation consists generally of various apartments; and it is supposed that each animal of the community has his distinct place of repose, their beds being comfortably lined with moss and grass. These communities usually consist of from two to ten. It not unfrequently happens, that various families of beavers congregate near the same place, but they keep as distinctly apart as bees; and it is only when the construction of very large dams becomes necessary for their mutual benefit, that their united labours are exerted. The beaver only breeds once a-year, producing two, three, or four at a birth. The young continue associated with

their parents for three years, at which time they separate, and commence a new colony of their own. In many cases, however, they remain with the old ones, and increase their dwellings, and thus make a formidable association.

Single beavers sometimes break off their intercouse with the community, and live in retirement, in holes dug in the banks of rivers. These have their opening considerably under the surface of the water, and extend to a considerable height above its highest level, sometimes to the distance of eight or ten feet. These solitary animals are called by the hunters, *hermits*, or *terriers.*

Captain Cartwright says, that the flesh of the beaver is "the most delicious eating in the world," except when they feed on the water lily, which, although it fattens them very much, yet renders the flavour strong and disagreeable.

There are at present in the gardens of the London Zoological Society a pair of beavers, which were sent from Canada by the Earl of Dalhousie. Their sight was considerably impaired before they reached England; one is totally blind, and the other has but one eye. They are kept in an enclosure with a pond. The blind one, in particular, is most persevering in diving for clay, to stop up any crevice in its habitation. They seem to enjoy perfect happiness in their captive state.

The beaver inhabits several countries of Northern Europe, and is extremely numerous in North America, from which country it forms an extensive article of commerce; and, in consequence of the great demand for their fur, they are eagerly sought after by the North American Indians. Their attention was first directed to this trade from a proclamation issued by the British government, so early as the year 1638, which forbade the use of any

other article in the manufacture of hats, except the fur of beavers. Since that period, immense numbers of this animal have been destroyed yearly. Some idea may be formed of the quantities which have been killed, from the following sales:—The Hudson's Bay Company, in 1743, sold twenty-six thousand, seven hundred and fifty skins; and upwards of one hundred and twenty-seven thousand were imported into Rochelle. In the year 1788, more than one hundred and seventy thousand were exported from Canada; and there were sent to England from Quebec alone, in 1808, the large number of one hundred and twenty-six thousand, nine hundred and twenty-seven.

The skins of cubs a year old are the most valuable, being darker, and more glossy than those of adults; and the winter coat is always preferable to the summer one. Winter, therefore, is the time in which it is hunted with most ardour. The ordinary method is to place a net at the opening of their domicile, under water, and then break down their houses, upon which they naturally fly to the river, and are thus captured. Another plan is resorted to, which is to break the ice into several holes, and then destroy their houses; and the animal, after remaining as long under water as he is able, is obliged to come to these apertures to breathe, and is then easily caught.

### *Beaver and Kitten.*

Major Roderfort, of New York, had a tame beaver, which he kept in his house upwards of half a year, and allowed to run about like a dog. The cat of the house had kittens, and she took possession of the beaver's bed, which he did not attempt to prevent. When the cat went out, the beaver would take one of the kittens between his

paws, and hold it close to his breast, to warm it, and treated it with much affection. Whenever the cat returned, he restored the kitten.

The beaver collected all the rags and soft things he could lay hold of, to make his bed, which was generally in some quiet corner of the house. Sometimes he grumbled, but never attempted to bite. This animal was fed on bread, and sometimes fish were given to him, which he ate very greedily.



## GENUS FIBER.—CUVIER.

*Generic Character.* The incisory teeth are $\frac{2}{2}$; the canine teeth $\frac{3\,3}{3\,3}$; the grinders $\frac{3\,3}{3\,3}$; total 28; the lower incisory teeth are sharp pointed, and convex in front; the grinders have flat tops, furnished with scaly, transverse, zigzag plates of enamel; fore feet with four toes, and the rudiment of a thumb; the hind feet have five toes, the edges furnished with stiff, bristly hairs; the tail is long, laterally compressed. It secretes an odoriferous unguent.

### THE ONDATRA.

FIBER ZIBETHICUS.—Desmarest.

The ondatra, or musk rat, is about the size of a rabbit. Its head is thick and short, resembling that of the water rat. Its eyes are large; its ears short, rounded, and hairy, both inside and outside. It has two strong cutting teeth in each jaw; those of the lower jaw are about an inch long. The hair is long, soft, glossy, and of a reddish brown colour, beneath which is a thick set downy fur, which is much used in the manufacture of hats.

The tail is tapering, flattened laterally, and covered with scales.

This animal inhabits Canada, and is called by the natives the *ondatra*. In its general form and habits, it much resembles the beaver. It is fond of the water, and swims and dives with great dexterity. It forms its domicile with dried plants, particularly reeds, which it cements with clay, and covers it with a dome shaped roof. It has various apertures for retreating; and, like the beaver, lays up provisions for the winter. It also forms subterraneous passages, to a considerable depth under the surface of the earth, into which it retreats, when its habitation is attacked.

In one respect, these animals differ considerably from the beaver; for they generally build their houses so superficially, as to last only for one winter. Nor do they keep so steadily to one spot as the beaver. Several families occupy one hut. Their principal food is roots and fruits, which latter are used for bait to catch them, according to Kalm. They are also taken by the hunter in spring, by opening their holes, and letting the light suddenly in upon them, which dazzles their eyes so much, that they are easily secured.

During summer, these creatures generally wander about in pairs, feeding voraciously on herbs and roots. They make nests in holes under the ground, which they line with soft materials. The females produce from three to six young at a time. These are suckled for about six weeks; and they continue to follow their parents till the end of autumn, when, along with them, they congregate with other families, in the neighbourhood of some lake or river, and commence building a receptacle, and collecting provisions, for their general comfort and support during the winter.

When taken young, musk rats are easily tamed, and are very playful and harmless creatures, never attempting to bite.



## Genus ARVICOLA.—Desmarest.

*Generic Character.* The incisory teeth are $\frac{2}{2}$: no canine teeth; the grinders are $\frac{3\,3}{3\,3}$; total 16; the ears are large; the toes of the fore feet with nails; the tail is round and long, being nearly equal to the length of the body, in most species.

### THE ECONOMIC RAT.

Arvicola Æconomus.—Desmarest.

This little animal measures only about four inches, its tail being little more than an inch in length. The head is large, and the ears short and naked, nearly hidden beneath the fur. The limbs are very strong. The general colour of the fur is tawny, paler beneath.

The economic rat inhabits Siberia, and is remarkable for its occasional migrations. In the spring of the year, these animals collect in vast numbers, and set out in a straight westerly direction; and the broadest rivers, lakes, or even arms of the sea, do not obstruct their course; they intrepidly plunge in, and swim across. In these adventures, many are drowned, and others fall a sacrifice to water fowls and rapacious fish. After they reach the land, they simultaneously halt, and remain some time to refresh themselves, and dry their fur. Dr. Green says, that as soon as they have crossed the river Penschinska, at the head of the gulf of that name, they take a south-

westerly course, and travel a thousand miles, to the rivers Ochotska and Judoma, which they reach about the middle of July. So immense are their numbers, that travellers have been obliged to wait two hours, when crossing their track, till they had all got past. They return to their eastern quarters in October.

The Kamschatdales have a superstitious veneration for these animals, and never attempt to destroy them; on the contrary, when they find any of them thrown on the banks of rivers, exhausted with swimming, they render them every assistance.

These singular animals construct burrows for themselves with much skill, immediately under the surface of a soft soil, where the turf is thick above. They are formed into chambers, with flattish arched roofs; and are generally about a foot in diameter, having from twenty to thirty passages for entering. Near these abodes they generally construct magazines, for containing their winter provisions, which they never fail to collect, with great assiduity. These consist of plants, which they gather and fetch home. When they are not properly dried, and likely to mould, the little animals have frequently been seen to bring them out of these holes, dry them thoroughly in the sun, and then return them. A single pair of females have been known to collect nearly thirty pound weight of roots; the females associate in pairs, for the purpose of laying in their winter's store, while the male is spending a life of solitude. These magazines are sometimes robbed by the natives of Kamschatka, their veneration for the animal itself not being so strong as to cause them to respect its property. The males are always found occupying the same nest with the females during winter.

## Genus LEMMUS.—Cuvier.

*Generic Character.* The incisory teeth are $\frac{2}{2}$; there are no canine teeth; the grinders $\frac{3\,3}{3\,3}$; total 16. The grinders have flat crowns, with oblique plates of enamel; the ears are very short, and hid among the fur; the fore feet, in some species, have five, and in others, four toes, which are peculiarly formed for digging; the tail short and hairy.

### THE LEMMING.

Lemmus Norvegicus.—Desmarest.

The lemming is called, by many naturalists, the Lapland marmot; and is found only in the northern confines of Europe, inhabiting the Alpine ranges of Lapland and and Norway, from whence they periodically migrate in immense numbers, devastating every thing eatable in their course; even the grass in their route is totally consumed, and appears as if ploughed up, or as if destroyed by fire. It is well for the inhabitants of these countries that their emigrations occur but about once in eight or ten years. Their progress is always southwards towards Sweden, and they preserve a direct line of march, and can only be diverted from it by some insurmountable barrier. They swim rivers and lakes to attain their object; in these attempts many of them perish; on account of this, and as numbers are destroyed by predatory animals, few of them return to their native country. Their march is performed during the night, or early in the morning. They never enter the habitation of man, keeping always in the open air. If opposed in their progress, they will either attack men

or animals, and wo betide him that subjects himself to their vengeance! They are bold and fierce animals, bite with great keenness, and hold with much obstinacy.

Sometimes these armies separate into parties, and quarrel, attack each other, and fight with astonishing fury. The inhabitants of Lapland, who are excessively superstitious, believe that these battles are the precursors of future wars with nations.

This animal is about the size of a water rat; the body thick, variegated with black and fawn colour, having the side of the head and upper parts white. The hair on the legs and tail is black and white mixed, which gives it a grayish appearance. The head is large, which, with the neck, is short, and thick; the eyes small; the legs are stout; and the tail scarcely exceeding an inch in length.

The females breed several times during the year, and produce four, or six at a time.



## GENUS MUS.—LINNÆUS.

*Generic Character.* The incisory teeth are $\frac{2}{2}$; without canine teeth; the grinders are $\frac{3\ 3}{3\ 3}$; total 16. The grinders are furnished with tubercles; the ears are oblong, or round, and nearly without fur; the feet with five toes; the tail long, naked, tapering and scaly; the fur, with a few long scattered hairs extending beyond the rest.

### THE BROWN RAT.

MUS DECUMANUS.—Desmarest.

The fur of the Norway, or common brown rat of this country, is grayish brown on the back and upper parts,

and somewhat whitish beneath; the tail is nearly the length of the body, which is about nine inches long.

This rat, which has now spread itself so universally throughout almost every country in the world, was first introduced into England, about the year 1730, from Norway. But its original country is Persia. Previous to that time, the black rat (*mus rattus*) was the species common to Britain, but it has been now nearly extirpated by the brown rat.

Though small, weak, and contemptible in its appearance, the rat possesses properties which render it a more formidable enemy to mankind, and more injurious to the interests of society, than even those animals which are endued with the greatest strength, and most rapacious dispositions. Against the one we can employ united powers; with respect to the other, experience has convinced us, that no art can counteract the effects of its amazing fecundity, and that force is ineffectually opposed to an enemy possessed of such variety of means to elude it.

The produce of the rat is enormous, as the female brings forth from eight to twelve at a litter, and this three times a-year; therefore, a single pair, where food is plentiful, may be the means of propagating, in the course of two years, upwards of a million; so that were it not for the voracity of these animals, which impels them to destroy each other, in time they would overrun the whole country. Vast numbers are also killed by dogs and cats; and in country situations, the weasel is their mortal enemy, and will frequently despatch dozens of them in a single night. And besides these, traps and poison are often successfully employed to destroy them. A couple of cartloads have been poisoned in one evening.

It is a curious fact in the history of these animals,

that the skins of such of them as have been devoured in their holes, are frequently found turned inside out; every part being completely inverted, even to the points of the toes. How his operation is performed, it would be difficult to ascertain; but it appeared to be effected by some peculiar mode of eating out the contents.

Rats are bold and fierce little animals, and when closely pursued, will turn and fasten on their assailant. Instances have occurred of persons asleep having been attacked by them.

### *A Mousing Rat.*

There was, in 1827, in the farmhouse of Lyonthom, near Falkirk, in Stirlingshire, a remarkable instance, not only of docility, but usefulness in a rat. It first devoured the mice, which were caught in traps, and was afterwards seen to catch them as they ventured from their holes, till, at length, the whole house was cleared of these vermin. It had been seen frequently in pursuit of the last solitary animal which was left, and, at length, it also disappeared. After having been hard pursued by the rat one day, it took refuge behind the fire, where it got part of its fur singed off, by which the little fugitive became known. From the service it rendered, the family kindly protected the rat; and it used to run about the house, and gambol among the family, without the least fear. It sometimes disappeared for a weak or ten days; and it was supposed that, in these intervals, it visited the stackyard, in its professional capacity of mouser.

### *Manifestation of Courage.*

A party of rats, amounting to about a dozen, while regaling themselves in a dung cart in Dundee, were observed to be watched by a large tom cat, from an adjoin-

ing wall. Puss, after a variety of cunning and stealthy movements, and apparently marking out his victim, made a sudden spring into the middle of the group, no doubt intending to secure one in the general retreat. If such was his calculation, the result proved that he had greatly underrated their courage; for, with the exception of two young rats, which fled, the rest boldly stood their ground, and displayed a fearful array of ivory weapons ready for the attack. The effect was instantaneous; for the terror stricken cat immediately fled, nor did he stop or abate his speed while within observation.

### *Voracity of Rats.*

A singular circumstance, exhibiting the voracity of appetite in these animals for roast beef, occurred in June, 1829, in the vicinity of London: A gentleman, whose cottage, in the suburbs, was much infested with rats, having placed a bit of roast beef in a common trap, on the following morning discovered a hole in the side of the animal that had been caught; and in addition to the beef in the trap, that had been almost wholly devoured, the stomach of the dead rat had been taken out by some of its own species.

## THE BLACK RAT.

Mus Rattus.—Linnæus.

The general length of the black rat, from the nose to the tail, is about seven inches; the tail is nearly naked, coated with a scaly skin, marked into regular annular divisons, and is eight inches long; the muzzle is more acute than that of the brown rat; the fur is of a very dark blackish brown on the back, and deep ash coloured below; the legs are dusky, and slightly covered with hair; like

the former species, it breeds three times a-year, and brings forth from six to eight at a time.

This rat was the ordinary species of Britain, but has been nearly extirpated by the brown kind, and is supposed to have been originally introduced from India and Persia.

In the year 1766, when the Valiant man-of-war returned from the Havannah to Britain, the rats on board of her had increased to such a degree, that they destroyed daily an hundred weight of biscuit. The ship was then fumigated between decks, to suffocate them. This operation had the desired effect; and so numerous were they, that six hampers were filled with the dead ones daily for some time.

### *Singular Association.*

A gentleman travelling through Mecklenburgh, about forty years ago, was witness to a very singular circumstance, respecting a rat, in the post-house at New Hargard. After dinner, the landlord placed on the floor a large dish of soup, and gave a loud whistle. Immediately there came into the room a mastiff, a fine Angora cat, an old raven, and a remarkably large rat, with a bell about its neck. They all four went to the dish, and, without disturbing each other, fed together; after which, the dog, cat, and rat, lay before the fire, while the raven hopped about the room. The landlord, after accounting for the familiarity which existed among these animals, informed his guest that the rat was the most useful of the four; for the noise he made had completely freed the house from the rats and mice with which it was before infested.

## THE MOUSE.

**Mus Musculus.—Linnæus.**

This well known little animal is spread over all parts of the globe, and seems to follow the habitations of man, however remote. It is naturally an extremely timid creature; but if laid hold of, will bite with great keenness. The mouse breeds very rapidly, producing from five to eight at a birth; and the young are capable of breeding at the age of three months. It is too well known to require any particular description.

### *Musical Mouse.*

"On a rainy evening, in 1817," says Dr. Archer, of Norfolk, Virginia, "as I was alone in my chamber, I took up my flute, and commenced playing. In a few minutes my attention was directed to a mouse that I saw creeping from a hole, and advancing to the chair in which I was sitting. I ceased playing, and it ran precipitately back to its hole; I began again shortly afterwards, and was much surprised to see it reappear, and take its old position. The appearance of the little animal was truly delightful; it couched itself on the floor, shut its eyes, and appeared in ecstacy. I ceased playing, and it instantly disappeared again. This experiment I repeated frequently with the same success, observing that it was always differently affected, as the music varied from slow and plaintive, to the brisk or lively. It finally went off, and all my art could not entice it to return."

## THE LINEATED MOUSE.

MUS PUMILIO.—Gmelin.

This animal is a native of the Cape of Good Hope. It is one of the least of its genus, measuring scarcely two inches from the nose to the insertion of the tail; and is distinguished from them all, by having four lines, which run from the back of the head to the tail, along the centre of the back. Its fur is of a cinereous mouse colour; black on the forehead and face; nearly as low as the nostrils.

The lineated mouse was first described by Sparrman, who found it in the forest regions of the Slaugen river. This is the dwarf mouse of Bewick.

## THE HARVEST MOUSE.

MUS MESSORIUS.—Shaw.

The harvest mouse measures two inches and a quarter from the nose to the tail, and the tail two inches; two of them put in a scale weighed only about the third of an ounce avoirdupois; they are the smallest of British quadrupeds.

This small species was first brought before the notice of the British naturalist, by Mr. Gilbert White, of Selborne, in Hampshire, whose interesting account we shall copy:—"These mice," says Mr. White, "are much smaller and more slender than the middle sized domestic mouse of Ray, and have more of the squirrel, or dormouse colour. Their belly is white. A straight line along their sides divides the shades of their back and belly. They never enter houses; are carried into ricks

and barns with the sheaves, abound in harvest, and build their nests amidst the straws of corn above ground, and sometimes in thistles. They breed as many as eight at a litter, in a little round nest, composed of the blades of grass or wheat.

"One of these nests I procured this autumn, (1767,) most artificially platted, and composed of the blades of wheat, perfectly round, and about the size of a cricket ball, with the aperture so ingeniously closed, that there was no discovering to what part it belonged. It was so compact and well filled, that it would roll across the table without being discomposed, though it contained eight little mice that were naked and blind. As this nest was perfectly full, how could the dam come at her litter respectively, so as to administer a teat to each? Perhaps she opens different places for that purpose, adjusting them again when the business is over; but she could not possibly be contained herself in the ball with her young, which, moreover, would be daily increasing in bulk. This wonderful procreant cradle, an elegant instance of the efforts of instinct, was found in a wheat field, suspended in the head of a thistle."

In winter, the harvest mouse burrows deep in the earth, and makes a warm bed of grass; but prefers congregating in immense numbers, under the roof of corn or hay stacks, when these are within its reach.



## Genus DIPUS.—Pallas.

*Generic Character.* The incisory teeth are $\frac{2}{2}$, those below being sharp pointed; they have no canine teeth; the grinders are $\frac{3\ 3}{3\ 3}$, or $\frac{4\ 4}{4\ 4}$; total from 16 to 18; the grind-

ers are simple, with tuberculous crowns; the eyes are large; the ears are long, and pointed; the fore feet are short, with four toes, and a tubercle with a nail in place of a thumb; the hind five or six times the length of those before, with from three to five toes, and only one metatarsus bone for the three middle toes.



THE COMMON JERBOA.

DIPUS JERBOA.—Desmarest.

The common jerboa is about the size of a rat, of a pale tawny brown on the back and sides, and the belly white; from the insertion of the tail to the flank runs a crescent shaped dusky band, which, however, is sometimes wanting in some individuals. The head is short; the nose moderately long, and furnished with several very long, curved whiskers; the ears thin, broad, upright, and rounded; the eyes large, round, projecting, and of a dark hazel colour; the fore legs are only about an inch long, with five toes on each foot; the hind feet have three toes on each, and are a little more than six inches long.

The ordinary length of the common jerboa, from the nose to the tail, is about seven inches and a quarter; and the tail itself is ten inches long, of a form rather square than cylindrical—of the same colour as the body, and terminated by a flattish oval tuft of black hair. In its attitudes and manner of progression, the jerboa resembles

a bird, and, when not in motion, generally sits on its hind legs, like the kanguroo. It leaps with amazing quickness, and to a great distance. In feeding, it uses its fore feet, like a squirrel. It subsists principally on corn and other vegetable substances. It lives in societies, burrowing deep into the sandy deserts of Egypt, Nubia, Arabia, Barbary, and Tartary. They are said to be very prolific.

This species is the *Daman Israel* of the Arabs, or *Lamb of Israel;* and is supposed to be the *coney* of Holy Writ, our rabbit being unknown in Palestine. It is also the mouse mentioned in Isaiah, *Achbar*, in the original, signifying a jerboa.



## Genus ARCTOMYS.—Geoffroy.

*Generic Character.* The incisory teeth are $\frac{2}{2}$, without canine teeth; the grinders are $\frac{5.5}{4.4}$; total 22. The incisory teeth are very strong, with their anterior surface rounded; the grinders are tuberculated on their upper surfaces; the head is large, as also the eyes; the ears are very short; the paws are strong; the fore feet with four toes, and the hind feet with five toes; the nails are strong and compressed; tail usually short.

### THE ALPINE MARMOT.

Arctomys Marmotta.—Desmarest.

The alpine marmot is somewhat about sixteen inches in length, from the snout to the tail; the head is large, in proportion to the size of the body; its ears are round, short, and almost hid in its fur, which is tawny ash

colour on the upper parts, and a rich fawn colour on the under parts; the tail is thick, and covered with long bushy hairs.

This species inhabits the loftiest summits of the Alpine regions of the Pyrenees, Savoy, Poland, the Ukraine, and Chinese Tartary. Its burrow under ground is contrived with great art, and consists of an oval cavity or general receptacle, large enough to contain several of the animals, and having a large passage, which divaricates in such a manner as to present two outlets to the surface of the earth. These recesses are prepared on the declivities of elevated spots, and the receptacle is well lined with moss and hay, which the animals prepare in summer, with a seeming foresight of the long hybernal sleep they are destined to undergo, which generally lasts from about Michaelmas till April. When they are reanimated, they are in an extremely emaciated condition. They make no provision for the winter; but, as soon as the frosts set in, they shut up the entrance to the burrow, and gradually assume the torpid state.

When taken young, the marmot may easily be tamed, and will eat any kind of vegetables, which, together with insects and roots, are their natural food. When a number of them are feeding together, they place one as a sentinel, which makes a whistling noise on the approach of danger, and thus warns the rest to betake themselves to their holes.

## THE QUEBEC MARMOT.

ARCTOMYS EMPETRA.—Desmarest.

This is rather larger than the former species; its head is much smaller in proportion, and round; its ears are very short; the cheeks are ash gray, and its nose black; the fur of the body is of a curious roan colour, from the

hairs being gray at bottom, black in the middle, and white at the tips; the belly and legs are of a high toned fawn, approaching to orange; its toes are black, and naked; the tail short, and rather bushy.

This species inhabits Hudson's Bay, and the northern parts of Canada.



## Genus SCIURUS.—Linnæus.

*Generic Character.* The incisory teeth are $\frac{2}{2}$; there are no canine teeth; the grinders are $\frac{5\ 5}{5\ 5}$; total 22. The upper incisory teeth are flat in front, and wedge shaped at the extremity; the lower ones are pointed and compressed laterally; the grinders are tubercular; the body is small; the ears erect; the head small; the eyes large; the fore feet with four long toes, and a tubercle in place of a thumb; the hind feet have five toes; the whole are furnished with crooked nails; the tail long, and often with long hairs, disposed in two rows; with two pectoral, and six ventral teats.



### THE COMMON SQUIRREL.

Sciurus Vulgaris.—Linnæus.

This species is of a bright brown colour, inclining to red on the upper parts of the body and sides; the breast

and belly are white; the ears are fringed with long tufts of upright hairs; the eyes are large, black, and lively; the fore legs are furnished with long stiff hairs, like whiskers, which project forward; its tail is long, and very bushy, which it generally carries over its back; and when engaged in eating, it sits upright, and uses its fore feet like hands, to convey the food to its mouth. The size of this species is about eight inches in length, exclusive of the tail, which is seven inches long.

The squirrel is a lively little animal; and in the spring is peculiarly active, leaping from branch to branch with surprising quickness. Squirrels form their nests in high trees, where the branches begin to fork into small ones. If they can find a natural hollow in such situations, it is preferred by them. They commence by making a level between these forks, and then bind the whole with moss, dry leaves, and twigs, in such a manner that they withstand any storm. The whole inside is lined with wool, or such other soft substances as they can pick up. It is covered on all sides, with only a single opening, just large enough to permit the animal to enter; and even this is protected from the influence of the wind, by a kind of canopy formed in the shape of a cone, to throw off the rain.

The common squirrel is a frugal little animal, and takes care to provide itself with a store of food; for the reception of which it finds out some hole, either in the tree it inhabits or one as near as possible. Its food consists principally of nuts of various kinds, and acorns. In the spring, however, when its winter stock is exhausted, it feeds on the buds and young shoots of trees.

No animal can be more watchful than the squirrel, which is at all times alive to the slightest appearance of danger. If the tree on which it resides is only touched,

it is sensible of it, and flies off to another with much rapidity, seldom stopping till at a great distance from the danger it apprehends. It is exceedingly timid, but easily tamed, when taken young.

This animal is to be found in vast numbers in the larger woods in all parts of Europe, and the north of Asia. In northern countries the colour of their fur is changed in winter to gray; and what is remarkable, this transition takes place even in a domesticated state, where the animals are not exposed to the rigours of the climate. This change, according to Dr Pallas, commences about the 4th of October, and, within a month, the whole fur has assumed the hoary appearance.

### *Domesticated Squirrel.*

Mr. Mackie had procured a common squirrel, from a nest, found at Woodhouselee, near Edinburgh, which he reared, and rendered extremely docile. It was kept in a box, which was nailed against the wall, at about six feet from the floor; it was wired in front, and had a small round aperture at one end, to allow the animal to enter. To the end of the box, below the aperture, was suspended a rope, which touched the ground, by which the animal descended and ascended to its domicile at pleasure. It became extremely playful, and was familiar with every one of the family, but devotedly attached to its master, who generally carried it about with him in his coat pocket, that on the right being made outside on purpose. The little creature used to watch very narrowly all its master's movements; and, whenever he was preparing to go out, it ran up his legs, and entered his pocket, from whence it would peep out at passengers as he walked along the streets, never venturing, however, to go out. But no sooner would he reach the outskirts of

the city, than the squirrel leaped on the ground, ran along the road, ascended to the tops of trees and hedges, with the quickness of lightning, and nibbled at the leaves and bark; and, if he walked on, it would descend, scamper after him, and again enter his pocket. In this manner it would amuse itself during walks of miles, which its master frequently indulged in. Whenever it heard a carriage or cart, it became much alarmed, and always hid itself till they had passed by. It was so familiar that, even in the company of strangers, it would leave his pocket, and run all over them. It would amuse itself by licking and nibbling at its master's hand, or that of any of his family, for hours, like a little dog.

This gentleman had a dog, which, although he had been trained not to touch the squirrel, would, however, never make complete friendship with it, which the little creature made many unsuccessful attempts to accomplish. Whenever the squirrel attempted to pass over his body, Ponto intimated his displeasure by a growl. When Ponto was asleep, Filbert (which was the squirrel's name) used to take great delight in teasing him, by making a rapid descent from his box, and scampering over the dogs body, and then quickly ascending its rope. This sport it would repeat again and again, to the great annoyance of Ponto, who, at last, would sometimes get very angry, when the little Filbert discontinued its gambols, and would sit peeping through the grating of its box.

Its master had taught it to catch food, nuts and acorns, thrown to it, with its fore paws, which it accomplished with great neatness; he also instructed it to leap over a stick, held out to it, and various other little tricks.

This interesting little pet met with its death by its master inadvertently leaning back in a chair, while it was in his pocket. On being squeezed, poor Filbert

gave a shrill scream; and, when he took it from his pocket, it was lifeless, to his unspeakable grief, and that of his whole family.

### *A Sagacious Pet.*

A lady of quality in Russia had a squirrel which she taught to crack nuts for her, and reach her the kernels with his paws. She had also instructed him to count money; and he was so attentive, that, whenever he found a coin on the ground, he took it up, and carried it to his mistress. She also employed him to scratch her hair, by way of combing it. So attached was this little creature to his mistress, that whenever she was confined to bed from indisposition, he lay still in his cage, without moving, although, at other times, he was full of natural vivacity.



THE BLACK SQUIRREL.

SCIURUS NIGER.—Linnæus.

This, like the preceding, is a native of North America, but is believed to be an entirely distinct species. It is the least of all the American races, is much shorter in the tail than the Grey Squirrel, and the ears are nearly naked. The specimens in the Gardens were presented by R. Bennett, Esq.: they are very wild.

## THE STRIPED SQUIRREL.

SCIURUS STRIATUS.—Desmarest.

This squirrel is very numerous in the forests of North America, as well as in Northern Asia. It has also been found, although very rarely, in some parts of Europe. This species differs very materially in its habits from all its congeners, as it burrows in the ground, in place of living in trees like them. Hence, it acquired the name of the ground squirrel. In its subterraneous retreat, it lays up various stores for winter use, such as maize, nuts, acorns, and grain. These dwellings are formed with much art, and are worked into long galleries, which branch off on each side, and terminate in a large cell, in which the stock of winter provisions is deposited.

It resembles some of the murine tribe, in being provided with cheek pouches, for the temporary reception and carriage of its food.

The length of the striped squirrel is five inches and a half, from the tip of the nose to the tail, and the tail itself nearly six inches; it is not curved and bushy, but long and narrow; the fur is of a reddish brown, and is marked with five black streaks, one of which runs along the centre of the back on the ridge of the spine; and there are two on each side, with a white space between them.

This animal seldom quits the ground but on a very sudden alarm; in which case, it will run up a tree with great quickness.

The striped squirrel is very difficult to tame; and even when so far domesticated, is not be trusted, as it frequently bites with great keenness. They are hunted on account of their skins, which, however, are of little value, and principally taken to the Chinese market.

## GENUS PTEROMYS.—CUVIER.

*Generic Character.* The dentition is similar to that of the genus sciurus. The head is round, the ears are round, and the eyes round and large; the fore feet with four elongated toes, furnished with sharp compressed claws, and having the rudiment of a thumb, with an obtuse nail; the hind feet have five long toes, much divided, and fitted for holding; the tail is long and villose; the skin of the sides extends from the anterior to the posterior extremities, forming a kind of parachute.

### THE FLYING PTEROMYS.

PTEROMYS SIBERICUS.—Desmarest.

This animal has been termed by naturalists the flying squirrel. It is particularly distinguished by a membranous continuation of the skin of the sides and belly, which extends from the fore to the hind feet, and assists it greatly in making leaps from one tree to another, frequently at a distance of twenty-five to thirty-six feet. This species is about nine inches in its whole length, of which its tail occupies five.

The flying pteromys is found in the woods of America, Lapland and Norway, where it feeds principally on the tender branches of pine and beech trees. It does not become torpid during the winter, like many other of the smaller animals of the cold regions which it inhabits.

In the act of leaping, the loose skin is stretched out by the feet, and the surface of the body is thereby greatly augmented; and its leaping has much the appearance of

flying. Where numbers of them are seen leaping together, they appear like leaves blown off by wind.

The females of this species are devotedly attached to their young, and never quit their nest but when pressed by hunger; and, on these occasions, they carefully wrap up the nest with moss.



## GENUS HYSTRIX.—LINNÆUS.

*Generic Character.* The incisory teeth are $\frac{2}{2}$; there are no canine teeth; the grinders are $\frac{44}{44}$; total 20. The grinders have flat tops, but furnished with ridges of enamel; the head is strong; the muzzle thick; the ears short and long; the tongue with spiny scales; the fore feet with four toes, and the rudiment of a thumb; the hind feet with five toes; the nails are strong; the body covered with spines, sometimes intermixed with hair; tail more or less long, sometimes prehensile.

### THE CRESTED PORCUPINE.

HYSTRIX CRISTATA.—Linnæus.

The crested, or common porcupine, is about two feet in length, and some of its longest spines exceed a foot. Its general colour is a grizzled dusky black, in consequence of the intermixture of varied shades of white, brown, and black. The upper part of its head and neck is furnished with a crest of long light coloured hairs, which it can raise or depress at pleasure. The hair on the face and limbs is very short, and almost black on the latter; it is of a brownish cast on the neck, shoulders, and under parts, and rather long; all the other parts of

the back and sides, rump, and upper surface of the hind legs, are armed with strong spines, which are longest on the back. These spines taper to both extremities; and are almost as thick as a goose-quill in the middle, supported at the base by a tender pedicle, and the points very sharp; the whole quills are striated longitudinally, and marked by alternate rings of black and white, an inch or more in breadth; these generally lie flat, but are raised while the animal is either under the influence of fear or passion.

M. Le Vaillant says, that the wound from a porcupine's quill is difficult of cure, from some poisonous quality it possesses; and mentions that one of his Hottentots, who was pricked in the leg by one of these, was ill for upwards of six months afterwards, and that a gentlemen at the Cape had nearly lost his limb from a wound of a procupine's quill: It occasioned his confinement to bed for nearly four months.

The porcupine is a native of Africa, and also of some districts of southern Europe. It lives under ground, in burrows of its own digging, which have several distinct openings, and only goes abroad in the evening in search of food, which consists entirely of vegetables, roots, leaves, and fruits. He is remarkably timid.

The time of gestation is about seven months; the female produces one or two at a birth, which she suckles for a month. These she guards with the tenderest solicitude, and will rather die than desert them.

The flesh of the porcupine is said to be very palatable, and is frequently to be seen on the tables of the respectable inhabitants of the Cape of Good Hope, and used to be exposed in the markets at Rome for sale.

### *Curious Playmates.*

The late Sir Ashton Lever had a tame porcupine, a domesticated hunting leopard, and a Newfoundland dog, which he used frequently to turn out together to play in a green behind his house. No sooner were the dog and leopard let loose, than they commenced chasing the porcupine, who uniformly, at the outset, tried to escape by flight; but when he found there was no chance of doing so, he would thrust his head into some corner, make a snorting noise, and erect his spines. His pursuers, if too ardent, pricked their noses, till the pain made them quarrel, which generally afforded him an opportunity of effecting his escape.

## THE BRAZILIAN PORCUPINE.

HYSTRIX CUANDU.—Desmarest.

The Brazilian porcupine is about one foot, and the tail about eighteen inches in length.

The head of this animal is small; the nose is extremely blunt; the teeth are large and strong; the ears short, broad and rounded; the feet have four toes on each, and a small tubercle, to represent the fifth toe, and are furnished with strong claws. The whole animal, except on the belly, and inside of the limbs, is covered with short, strong, and very sharp spines, of which the longest measures three inches, and are white, barred towards the point with black. The colour of the hair with which the hinder feet are covered, is dusky brown, and of a bristly texture. The tail is covered with spines, for about six inches from its base; the remainder with dusky hairs.

This species inhabits Mexico and Brazil. It lives in

woods, climbs trees, and is said to feed on fruits and small birds. The time of seeking its food is by night, and it sleeps by day. The sound of its voice is like the grunting of a pig. It grows very fat; and the natives are fond of its flesh, which is said to be good.



## Genus LEPUS.—Linnæus.

*Generic Character.* The incisory teeth are $\frac{4}{2}$; no canine teeth; the grinders are $\frac{6\,6}{5\,5}$; total 28; the upper incisory teeth placed in pairs, two wedge-shaped, with a longitudinal furrow in front, and two smaller ones immediately behind them; the under incisory teeth are square; the grinders have flat crowns, with transverse laminæ of enamel; ears and eyes large; the fore feet have five toes, and the hind feet four; they are all covered with hair, with slightly arched nails; the tail is short, erect; the teats are from six to ten; the cœcum is very large.



THE HARE.

Lepus Timidus.—Linnæus.

The fur of the hare is of a brownish-red and gray mixed. The throat and under parts of the body are white. The ears are long, and black at the point. The tail is black above, and white beneath. The usual length of

the hare is about two feet. The head is oval, the eyes large and prominent, of a yellowish brown, possessing the power of seeing on all sides. The fore legs are very short, and the hind ones long.

The hare is one of the most timid, gentle, and defenceless of all animals, and so surrounded on every side by determined enemies, that it is only to be wondered that the race is not long ago totally extirpated. But it is endowed by Nature with instinct, which enables it, in a great measure, to evade their attacks. It is fearful of every danger, and ever attentive to the slightest alarm, which its long, flexible, and movable ears, enable it to discover when at a great distance. Its great swiftness gives it a superiority over most of its pursuers; in running up a hill, the length of its hind legs, and strength of its muscles, give it a decided advantage; and, sensible of its powers in this respect, it generally, when first started, flies towards rising ground, if any is near.

Dogs and foxes pursue the hare by instinct. Wild cats, weasels, foumarts, and martins, catch and destroy it. Eagles, and other birds of prey, pounce upon it in its form, and man makes it an animal of the chase.

The hare, when pursued, never runs straight forward, but constantly doubles about.

An old hare, when hunted by a common hound, seems to regulate her flight from the very first, according to the speed of her pursuer. She knows from experience that very rapid flight would be less certain of carrying her out of the reach of danger, than a more deliberate one, whereby the chase is protracted to a greater length of time, and she can continue the exertion of her strength longer than if she put forth her full speed at first. She seems to have observed, that in grounds where there are many young shrubs, the contact of the whole of

her body leaves behind a stronger scent. She, therefore, avoids all thickets, and keeps as much as possible upon beaten roads; but when pursued by greyhounds, she runs from them as fast she is able, and seeks for shelter in woods and thickets. Knowing that terriers, even though they do not see her, can follow her track, she often practises an admirable stratagem to deceive them: When she has run for a considerable time in a straight line, she returns a small distance upon the road she has come, in order to render the scent very strong upon this space of ground; she then makes several long leaps, in a side direction, and thereby renders it difficult to recover the scent. By this means the hounds are often put at fault, and the hare enabled to get a considerable way ahead, and by these means she frequently effects her escape.

The colour of the hare is also favourable to her safety, for it so much resembles the ground, that it is not easily noticed. In northern regions, hares become perfectly white during the winter. She will seldom quit the ground on which she originally existed; and if she be pursued, and escapes, will return to the same spot.

It is during the evening that the hare usually leaves her form to go in search of food; and generally returns to her seat by the same path she left it. The form is mostly in the middle of some thick tuft of long grass, which nearly covers her body, and protects her from the breeze.

> 'Tis instinct that directs the jealous hare
> To choose her soft abode. With step reversed
> She forms the doubling maze; then, ere the morn
> Peeps through the clouds, leaps to her close recess.

The hare is very prolific, and breeds three or four

times a-year: the female goes with young thirty days, and brings forth three or four at a litter.

### *Sly Device.*

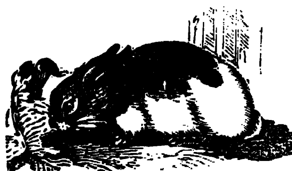
Fouilloux says he saw a hare start from its form at the sound of the hunter's horn, run towards a pool of water at a considerable distance, plunge in, and swim to some rushes in the middle, where it lay down and concealed itself from the pusuit of the dogs.

### *A Choice of Evils.*

In March, 1793, a hare that had been chased upwards of two hours by a pack of beagles, was afterwards pursued by a couple of lurchers, and to escape them jumped into the window of a blacksmith's shop, at Salehurst, and was taken alive in the coal trough.

### *Surprising Sagacity.*

An extraordinary instance of the sagacity of a hare is recorded in the *Sporting Magazine*, as having been witnessed during a run with a well known pack of harriers in the west of England. The hunted hare being nearly exhausted, happened to come upon another hare in her form, from which she drew her out, and introduced herself; the pack followed the new started hare; and the huntsmen, on coming up, found the hare which they had been hunting squatted, panting very hard, and all covered with mud.



THE RABBIT.

Lepus Cuniculus.—Linnæus.

Although there is a great similarity between the hare and rabbit, yet they are widely different in their habits; the former always lives in the open fields on the surface of the ground, and the latter invariably burrows in the ground.

The fecundity of the rabbit is truly astonishing; it breeds seven times a-year, and generally produces eight young ones at a time. The young are capable of breeding at the age of five months; so that it is calculated that the produce of a single pair, in the course of four years, may amount to the amazing number of 1,274,840.

The original country of the rabbit is supposed to be Greece and Spain, and it cannot exist in a cold climate. It is easily domesticated, and even in this state produces a greater number at a time than when wild.

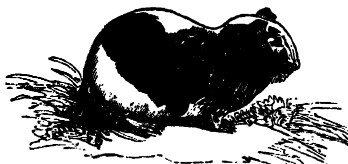
The male rabbit has a great propensity for destroying the young; to prevent which, the female carefully covers up the nest each time she goes out to feed.



## Genus CAVIA.—Desmarest.

*Generic Character.* The incisory teeth are $\frac{2}{2}$; no canine teeth; the grinders are $\frac{44}{44}$; total 20. The body is

thick; the muzzle short and compressed; the eyes large; the ears short and round; the legs short; the fore feet have four toes, and the hind feet three toes, which are not palmated; there is no tail; they have two ventral teats.



THE GUINEA PIG.

Cavia Cobaya.—Desmarest.

The guinea pig is a native of Brazil; its fur is reddish, mixed with gray; but in a domesticated state, it is fawn, white, or cream coloured, varied with large patches of black, or dark liver brown. It is nearly a foot long, and walks so low, that its body appears to touch the ground. Although a native of a warm climate, it will propagate in temperate countries, if kept from the cold. Numbers of them used to be kept as curiosities, but are now seldom to be met with. They are stupid little animals, and allow themselves to be devoured by cats, without offering the least resistance; and they do not even protect their young with parental care.

The young grow so rapidly, that they will run about twelve hours after birth, and have been known to breed at two months; so that a single pair may be the means of propagating a thousand in a year.

They are very cleanly, and their whole employment seems to consist in licking and arranging their fur.

The name *guinea* given to this animal is evidently a

corruption of Guiana, in South America, whence they might originally be brought.



## GENUS BRADYPUS.—LINNÆUS.

There are no incisory teeth; the canine teeth are $\frac{1\,1}{1\,1}$; the grinders are $\frac{4\,4}{3\,3}$; the canine teeth are pyramidical, longer than the grinders, and pointed; the grinders are cylindrical; the head small; the muzzle truncated; the neck short; the nostrils are at the extremity of the muzzle; the anterior extremities are longer than the posterior, with two or three united toes, furnished with strong nails; the fur is strong and long, that on the fore arms growing reverse. The intestines are short; there is no cœcum.

### THE THREE-TOED SLOTH.

BRADYPUS TRIDACTYLUS.—Linnæus.

The body of the three-toed sloth is thick, about the size of a cat, and of a very uncouth appearance; the feet are small, but furnished with very strong, and large, much curved, and sharp pointed claws; the head is small and round; the face naked; the eyes are small, black, round, and nearly covered by the hair of the forehead, which hangs over them; long hair surrounds the whole face and chin, which gives the animal a singular appearance. The colour of the hair is grayish brown, and it is very coarse in its texture. The three-toed sloth lives generally on the tops of trees; and if they are high, so slow is its progressive motion, that it will take two whole days to ascend, and as many to get down again, which it never does till it has stripped the tree of its fruit, blossom, and leaf.

It is said, that, to save the trouble of a laborious descent, which it would otherwise be obliged to make, it suffers itself to fall to the ground; its tough skin and thick coarse hair sufficiently securing it from any unpleasant consequences in its fall.

The voice of the sloth is said to be so inconceivably singular, and of such a mournful and melancholy tone, as, taken in conjunction with the peculiarly doleful cast of the features, to create a mixture of pity and disgust in those who look on it; and the horrid yell it makes frightens away animals which attempt to prey upon it. But this is not its only refuge, for its strength of limb is so great, that it is capable of seizing a dog with its claws, and holding it in spite of every effort to escape, till it dies of hunger. Kircher assures us, that its powers in this respect have been exemplified by the very singular experiment of suffering one, which had fastened itself to a pole, to remain in that situation, without any sustenance, upwards of forty days. This singular animal is an inhabitant of the hotter parts of South America.



## Genus DASYPUS.—Linnæus.

*Generic Character.* They have either no incisory teeth, or they are placed $\frac{2}{4}$; and are without canine teeth; the grinders vary, in the several species, from 28 to 68; these are cylindrical, separate, and without enamel on the inner side; the head is large; the mouth and eyes small; the tongue partially extensible; the whole body is covered with a shell or plate of armour; the fore feet have four or five toes, with long nails fit for digging; the hind feet with five toes; the tail is rather long and round; with two or four teats; intestines without a cœcum.



## THE SIX-BANDED ARMADILLO.

DASYPUS SEXCINCTUS.—Desmarest.

Instead of hair, the bodies of this remarkable tribe of animals are covered with a kind of coat of mail, divided into bands or shelly zones; and, in this respect, they seem an intermediate link between quadrupeds and tortoises. Armadillos afford a beautiful example of deviation, in general structure and appearance, from the quadrupedal form. They inhabit subterraneous retreats or burrows, which they excavate with facility, by means of their large and strong claws. They feed at night, on roots and grain, and occasionally prey on the smaller animals of various kinds, such as worms, insects, and lizards. In a captive state, they feed on flesh readily, which they will eat in considerable quantity.

The flesh of the armadillo is considered excellent eating by the natives of South America, especially when young; but when old, it acquires a strong musky flavour. When attacked, the armadillo rolls itself up in the form of a round ball, and becomes, in a degree, invulnerable. The mechanism of their singular structure demands our highest admiration, and affords a striking example of the powers of divine wisdom.

## GENUS MYRMECOPHAGA.—LINNÆUS.

*Generic Character.* They are entirely toothless; the head is elongated; the muzzle tapering to a point; the tongue is protractile; all the toes are united to the root of the nails, which are strong, and adapted for digging; four before and five behind, or two before and four behind; with two pectoral teats in some; in others, two pectoral and two ventral; the tail is sometimes prehensile.

### THE GREAT ANT-EATER.

MYRMECOPHAGA JUBATA.—Linnæus.

This remarkable quadruped is about five feet and a half, from the point of the nose to the root of the tail; and its height about two feet. The tail itself is upwards of two feet and a half. The body is covered with very coarse and shaggy hair; and the tail is furnished with long flowing black hair, somewhat like that of a horse's mane. Its head is small, with a very long snout. The eyes are small and lively; the ears short and round. The shoulders and fore legs are thick and muscular. The general colour of the hair is deep gray, with a very broad band of black, running from the neck towards the flanks, and tapering to a point, with a white margin at its upper surface.

The great ant-eater is a native of Brazil and Guiana. It sleeps the principal part of the day, and feeds in the evening. Its food consists principally of ants. When he discovers an ant-hill, he scratches it up with his powerful claws, and then throws out his tongue, which is retractile, like an earthworm. He places this organ in the midst of the disturbed colony, and, as it is covered with

a tough slimy saliva, thousands stick to it, when he draws it into his mouth, and swallows them. This operation he repeats, till he has consumed the whole community. Wood lice and wild honey are also favourite articles of food with him. In quest of these, he frequently ascends lofty trees, which he does with much facility, owing to the great length of his claws.

The great ant-eater is a good swimmer; and when he crosses a river, his tail is always elevated above his back.

The female produces one young at a time; and it is said to take four years for arriving at maturity.

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## Genus ORNITHORYNCHUS.—Blumenbach.

*Generic Character.* Neither incisory nor canine teeth; the grinders are $\frac{2\,2}{2\,2}$; total 8; they are merely fibrous, not fixed in any bone, but in the gum only: it it has a horny beak, resembling a duck's bill; the nostrils are contiguous, opening at the end of the upper mandible; it is furnished with cheek pouches; paws with five toes, webbed, with a spur on the hind ones in the male; the tail is short, and broad at its base.

### THE PARADOXICAL PLATYPUS.

#### Ornithorynchus Rufus.—Desmarest.

Of all the mammiferous animals with which we are acquainted, this is certainly the most singular, exhibiting the perfect resemblance of the beak of a duck, engrafted on the head of a quadruped. It has all the parts and characteristics of the head of a shoveler, or other broad

billed species of duck. The body is depressed, and has some resemblance to that of an otter in miniature. It is covered with a thick and very soft fur; in texture nearly allied to that of the beaver. The tail is flat, short, with a tufted termination, and covered with the same sort of fur as the body. The total length of the animal is fourteen inches; and the beak itself is an inch and a half. The legs are very short, ending in a broad web, which extends to a considerable distance beyond the claws; but in the hind feet reaches no farther than the roots of the claws. The fore feet are naked, both above and below; but the hind feet are hairy above, and naked below. The eyes are excessively small, the orbits being little more than the tenth of an inch, and nearly concealed in the fur. The auditory foramina are placed about an inch beyond the eyes, and consist merely of small oval holes, of an inch in diameter.

No animal has ever excited the curiosity of naturalists more than the platypus. At first it was considered as an imposition, from its conformation being so totally different from any thing mankind had any notion of.

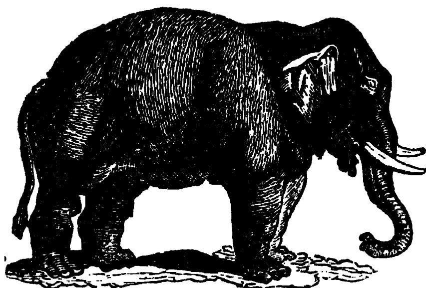
The platypus is a native of the marshy grounds of New Holland, that country abounding with animals of new and extraordinary character.



## GENUS ELEPHAS.—LINNÆUS.

*Generic Character.* The incisory teeth, or tusks, are greatly elongated, and are $\frac{2}{0}$; there are no canine teeth; the grinders are $\frac{2\,2}{2\,2}$; total 10. The incisory teeth are composed of ivory, slightly arched towards their points, incased with a coat of enamel; the grinders are formed of

vertical and transverse laminæ, covered by enamel; the head very large; the nasal fossæ greatly elevated; the nose is elongated into a cylindrical proboscis, which is movable in all directions, with an extremely sensitive finger-like process, at the upper margin of its point; the legs are very large and flat; the body massive; the tail rather short, tufted at its point; with two mammæ.



THE INDIAN ELEPHANT.

Elephas Indicus.—Cuvier.

The Indian elephant is the largest of all quadrupeds, the height of his body being about ten feet, and his weight from six to seven thousand pounds. The following is the exact measurement of one belonging to the Vizier of Oude: From the one fore foot to the other, over the shoulders, twenty-two feet ten inches and a half; from the top of the shoulder, in perpendicular height, ten feet six inches; from the top of the head to the ground, twelve feet two inches; from the front of the face to the insertion of the tail, fifteen feet eleven inches. The skin is of a deep ash colour. The tusks do not make their appearance in the young till they reach the third year; and those of the adult females are always less than in the male. These are, in general, from nine to ten feet in

length. The eyes of the elephant are so small, as to be a deformity; but they are sparkling, lively, and intelligent. The diminutive size of these organs may assist in protecting them from injury, amidst the bushes and jungles where they seek food; and for farther safety, they are furnished with nictitating membranes, by which they can keep off insects, and get quit of extraneous substances, which may accidentally enter them. The legs are extremely thick, and the feet divided into five toes, which much resemble distinct hoofs, and are surrounded by a bony process. The teats in the female are two, pectoral, and situated a little way between the fore legs. The elephant is nearly thirty years in arriving at its full size.

There is a peculiarity in the dentition of the elephant, which differs from that of every other quadruped,—the provision which nature has made to enable him to masticate a much larger quantity of food than other animals, and that through a longer series of years. The grinders of sheep and deer are worn out in fifteen years; those of horned cattle in twenty years; the grinders of the horse last forty or fifty; while those of the elephant last a hundred years; and when totally worn out, are renewed again. As this subject is curious, we quote the following passage from the article Elephant, in the *Edinburgh Encyclopædia:*—

"The elephant has no cutting teeth in either jaw in front; but he is furnished with most powerful grinders, that enable him to bruise the vegetables on which he feeds. These teeth, as in all herbivorous animals, have an uneven surface; but do not rise into points, as in animals which feed on flesh. Each grinder is composed of a number of perpendicular laminæ, which may be considered as so many teeth, each covered with a strong enamel, and joined to one another by a bony substance

of the same quality as ivory. This last substance, being much softer than the enamel, wears away faster by the mastication of the food, so that the enamel remains considerably higher, and in this manner, the surface of each grinder acquires a ribbed appearance, as if originally formed with ridges. From very accurate observations, which have been made on the Asiatic elephant, it appears that the first set of grinders, or milk teeth, begin to cut the jaw eight or ten days after birth; and the grinders of the upper jaw appear before those of the lower ones. These milk grinders are not shed, but are gradually worn away, the fangs beginning to be absorbed. From the end of the second to the beginning of the sixth year, the third set come gradually forward, as the jaw lengthens, not only to fill up this additional space, but also to supply the place of the second set, which are, during the same period, gradually worn away, and have their fangs absorbed. From the beginning of the sixth, to the end of the ninth year, the fourth set of grinders come forward, to supply the gradual waste of the third set. In this manner, to the end of life, the elephant obtains a set of new teeth, as the old ones become unfit for the mastication of his food."

This stupendous animal has been known to man from the earliest ages; and of all the beasts which have been taken into his service, he is pre-eminent for size and amazing strength, as well as for great sagacity and obedience. He is gregarious, associating in herds of from fifty to some hundreds. His native country is Asia; and he is to be found in all the southern countries,—namely, Cochin-China, Pegu, Siam, Ava, Hindostan, as well as Ceylon, and almost all the larger islands.

Elephants hold undisputed sway in the mighty forests which they inhabit; their immense size, united strength,

and great swiftness, enabling them to dislodge all intruders on their abodes. The lion and tiger fear their united attacks, and avoid such formidable assailants. Seemingly sensible of the large supply of food they require, they will allow no animal, however peaceable, to browse in their territories, of which they hold exclusive possession; and they can only exist in those extensive woody ranges, or immense plains, where vegetation abounds in all its wild luxuriance.

From the conformation of the legs of the elephant, he has evidently been formed to move on level ground; as he wants the elastic ligament, which, in almost all quadrupeds, connects the top of the thigh bone with the pelvis, and that gives the hind legs power to resist the strain which is produced by moving on irregular surfaces.* Although the elephant is capable of ascending elevated tracts, with a considerable weight, yet his action plainly indicates, that it is by no means natural for him to do so. But to make up for this deficiency, he moves with the utmost caution, taking care always to have one foot secure, before he rests upon another.

The elephant is an excellent swimmer, and is capable of crossing the largest Asiatic rivers. This power seems very essential; for the great quantity of food which a herd must consume, necessarily obliges them to remove from one place to another. The elephant swims deep, being sometimes immersed to the head in the water, which does not at all incommode him, if he can reach the the surface with the tip of his proboscis, so as to breathe the atmospheric air. In a captive state, this sometimes proves rather dangerous to his mohout, or driver; and it

* See the interesting observations on the anatomy of the Elephant, in Sir E. Home's *Comparative Anatomy*, vol. i. p. 95.

not unfrequently happens, that he is obliged to stand erect on his back.

It will be noticed that the head of this quadruped is very differently placed from that of all other herbivorous animals. His neck is so short, that its vertebræ may rather be considered as a column for its support, than to enable him to put his head to the ground to graze. The movements of his head are confined to a very limited elevation and bending, as also a slight motion from side to side. This shortness and compactness of the vertebræ is necessary for the support of his ponderous head, and immense tusks. To supply the defect of a short neck, nature has furnished him with a proboscis or trunk, which is an organ of the most exquisite sensibility, and fitted in an eminent degree for a number of useful purposes, and to supply all his necessities. This surprising organ has commanded the admirtion of mankind in all ages of the world; its flexibility and strength, and its extreme sensitiveness, excite our astonishment.

The proboscis is a prolongation of the organ of smell, for there are two canals pierced through its centre, from one end to the other, and nearly separated by a fatty substance, about the third of an inch in thickness. These canals the animal has the power of dilating or contracting at pleasure; and it is with these that he supplies himself with drink, by first filling them with the liquid, and then turning the point into his mouth and discharging the water into it. The water is drawn up by suction, to a certain point, beyond which it cannot pass.

Some notion may be formed of the command the animal possesses over his trunk, when it is known, that Cuvier has ascertained, from anatomical dissection, that the muscles of this member, which have the power of

distinct action, amount nearly to forty thousand. There is no animal organ at all to be compared to this for perfection, and possessing a mechanism so wonderful, and so completely adapted to its varied uses.

The extreme termination of the trunk consists of a finger-like process, of an exceedingly flexible nature, and with which it can lift from the ground the smallest object, by being pressed against an opposite process; between those two parts, which may be termed the finger and thumb, are situated the nostrils.

The first and most essential property of the trunk is to supply the animal with food; for with it he can despoil the trees of their young shoots and leaves, and crop the herbage of the fields; he twists the point spirally round them, and crops them as nicely off as with a knife; and then conveys them to his mouth. Captain Williamson mentions, in his *Oriental Field Sports*, that he saw an elephant whose proboscis had been cut through with a billhook; and although the wound was perfectly healed, yet the animal could not make use of this organ to supply his daily wants. He was fed with bundles of grass, which his keeper was obliged to put into his mouth.

The exquisite sensibility of the trunk, as an organ of touch, next commands our attention. With the finger he can feel the most minute object, although he cannot see it. Blind elephants can travel in perfect safety, with the assistance of their proboscis; they project it forward, and with the finger examine all the inequalities of the ground, avoiding in the most distinct manner all irregularities, and even stepping over ditches; and they can feed, in woods and pastures, with nearly as much facility as those who see, by the use of this member.

The elephant seems to be quite sensible of the value of his trunk, for he rarely uses it as an offensive weapon,

and takes the greatest care of it upon all occasions. It is said that he often makes use of his trunk in throwing clods, stones, and other missiles, at his adversaries.

Lawrence and Blumenbach assert, that the organ of smell in elephants is extremely acute; this conclusion they draw from the complicated formation of the ethmoid bone, and the largeness of the frontal sinuses. Sparmann mentions a curious circumstance of a native having, from the smell, been discovered and chased by an elephant; for says he, "With respect to the place I was in at first, I am certain the animal could not see me, and consequently, he first found me out by scent." Mr. Corse asserts, that the elephant can follow the track of a tiger by the smell.

This quadruped also possesses the sense of hearing in a high degree; which has been given to him for some wise purpose.

Elephants are possessed of three distinct methods of utterance, which their Asiatic keepers perfectly understand. The first sound, which denotes pleasure, is produced by blowing through the proboscis, in a sharp manner, like the notes of a trumpet, blown by a novice. The second, to signify their wants, is expressed through the mouth in a low murmuring tone. The third, which is indicative of rage, is a tremendous roar, proceeding from the throat.

The elephant is an animal of a gentle disposition, and seldom engages in conflict with other quadrupeds, except from necessity.

Bathing is a favourite recreation with the elephant. This probably arises from the pleasure the animal feels from the cuticle being cooled and refreshed, as they have no hair to protect it from the sun's influence. Bishop Heber, in his approach to Dacca, saw a number of ele-

phants enjoying themselves in this way, which he thus narrates:—"At a distance of about half a mile from those desolate palaces, a sound struck my ear, as if from the water itself on which we were riding, the most solemn and singular I can conceive. It was long, loud, deep, and tremulous, something between the blowing of a whale, or perhaps more like those roaring buoys which are placed at the mouths of some English harbours, in which the winds make a noise to warn ships off them. 'Oh,' said Abdallah, 'there are elephants bathing; Dacca much place for elephant.' I looked immediately, and saw about twenty of these fine animals, with their heads and trunks just appearing above the water. Their bellowing it was which I had heard, and which the water conveyed to us with a finer effect than if we had been on shore."

The elephant is a long-lived animal, although the exact duration of his existence is not properly ascertained. It is, however, quite well known that they have lived one hundred and thirty years. Some authors have gone the length of estimating his life at four hundred years.

The time of gestation in the elephant is twenty months and eighteen days; the produce but one young at a time, which is, at birth, about thirty-five inches in height. They suck the teats of their mother with their mouth, and not with their trunk, as many authors have asserted.

The elephant, when domesticated, becomes exceedingly docile, and obedient to the commands of his keeper. He soon conceives an affection for him, and caresses him with his trunk. He quickly comprehends signs, understands the sounds of particular words; and regulates his actions according to the expression of command, of anger, or of approbation. The orders of his keeper he seldom mistakes, and executes them with prompti-

tude and eagerness, although not always with a prudent caution. All his motions are orderly, and seem to correspond with the dignity of his appearance, which is grave and majestic. He will bend down on his knees to receive his keeper. He can be instructed to open and shut a door with his trunk, pull a bolt, lift a latch, or a bucket of water. He permits himself to be clothed; and seems pleased with gilded trappings. He is employed in drawing chariots, wagons, and ploughs. His conductor generally rides on his neck, and directs his movements; for this purpose it is sometimes necessary to prick him with an iron rod, hooked at the end; but words are generally sufficient.

It is computed that an elephant will perform the work of six horses; but he requires more care from his keeper, and a much greater quantity of food, which, in India, usually consists of rice and water, either raw or boiled, with the addition of fresh vegetable substances. His daily allowance of rice is a hundred pounds, and he is supposed to drink about forty-five gallons of water. The elephant is easily overheated; and it becomes necessary to allow him to bathe as frequently as circumstances will permit. Where the pool is not sufficiently deep to allow him to immerse himself entirely in the water, he sucks up a quantity in his trunk, and, elevating it over his head, spouts it all over his body.

The tusks of the elephant are tremendous weapons of defence. With these he can clear his way through the thickest forest; he can root up small trees, and tear down cross branches with ease. With one push of his tusks he kills both tigers and lions, transfixing even the furious rhinoceros, who sometimes has the temerity to attack him.

Naturalists, since the middle ages, have denied that the elephant propagates in a state of captivity. Ælian

and Columella both distinctly state, that the elephant was, in their time, productive in a domesticated condition. The former of these authors flourished in the beginning of the second century. Mr. Corse, keeper of the elephants to the East India Company, who has probably seen and watched the habits of these animals more than any other in Europe, distinctly asserts, that they bring forth under the dominion of man. In India it was thought unlucky to breed elephants; but it is more likely they refrained from doing so on account of the great expense of rearing young elephants, and their being so long in reaching maturity. It was easier to procure them by hunting, and securing them in their native forests.

The manner of hunting and taming the wild elephant is curious. In the middle of a forest, where these animals are known to abound, a large piece of ground is marked out, and surrounded with strong stakes driven into the earth, interwoven with branches of trees. One end of this enclosure is narrow, and it gradually widens till it takes in a great extent of country. Several thousand men are employed to surround the herd of elephants, and to prevent their escape; they kindle large fires at certain distances, and by hallooing, beating drums, and playing discordant instruments, so bewilder the poor animals, that they allow themselves to be insensibly driven, by some thousands more Indians, into the narrow part of the enclosure, into which they are decoyed by tame female elephants, trained to this service. At the extreme end of the large area is a small enclosure, very strongly fenced in, and guarded on all sides, into which the elephants pass by a long narrow defile. As soon as one enters this strait, a strong bar is thrown across the passage from behind. He now finds himself separated from his neighbours, and goaded on all sides by hunts-

men, who are placed along this passage, till he reaches the smaller area, where two tame female elephants are stationed, who immediately commence to discipline him with their trunks, till he is reduced to obedience, and suffers himself to be conducted to a tree, to which he is bound by the leg, with stout thongs of untanned elk, or buck skin. The tame elephants are again conducted to the enclosure, where the same operation is performed on the others, till all are subdued. They are kept bound to trees for several days, and a certain number of attendants left with each animal to supply him with food, by little and little, till he is brought by degrees to be sensible of kindness and caresses, and thus allows himself to be conducted to the stable. So docile and susceptible of domestication is the elephant, that, in a general way, fourteen days are sufficient to reduce the animals to perfect obedience. During this time they are fed daily with cocoa-nut leaves, of which they are excessively fond, and are conducted to the water by the tame females. In a short time he becomes accustomed to the voice of his keeper, and at last quietly resigns his freedom, and great energies, to the dominion of man.

Elephants were much more extensively used in India in former times than they are now. We are informed by Captain Hawkins, while he was at Agra, in 1607, that Jehanghir had twelve thousand elephants. And so late as 1794, the Nabob of Oude was escorted in a hunting expedition by a thousand elephants. But the use of these animals at oriental courts has much diminished, since the power of the native princes has been circumscribed by British enterprize.

*Reasoning on Consequences.*

"At the siege of Bhurtpore, in the year 1805, an affair occurred between two elephants, which displays at once

the character and mental capacity, the passions, cunning, and resources of these curious animals. The British army, with its countless host of followers and attendants, and thousands of cattle, had been for a long time before the city, when, on the approach of the warm season, and of the dry hot winds, the quantity of water in the neighbourhood of the camps, necessary for the supply of so many beings, began to fail; the ponds or tanks had dried up, and no more water was left than the immense wells of the country would furnish. The multitude of men and cattle that were unceasingly at the wells, particularly the largest, occasioned no litte struggle for the priority in procuring the supply, for which each was there to seek, and the consequent confusion on the spot was frequently very considerable. On one occasion, two elephant drivers, each with his elephant, the one remarkably large and strong, and the other comparatively small and weak, were at the well together; the small elephant had been provided by his master with a bucket for the occasion, which he carried at the end of his proboscis; but the larger animal being destitute of this necessary vessel, either spontaneously, or by desire of his keeper, seized the bucket, and easily wrested it away from his less powerful fellow-servant. The latter was too sensible of his inferiority openly to resist the insult, though it is obvious that he felt it; but great squabbling and abuse ensued between the keepers. At length, the weaker animal, watching the opportunity when the other was standing with his side to the well, retired backwards a few paces, in a very quiet unsuspicious manner, and then rushing forward with all his might, drove his head against the side of the other, and fairly pushed him into the well.

"It may easily be imagined that great inconvenience was immediately experienced, and serious apprehensions

quickly followed, that the water in the well, on which the existence of so many seemed, in a great measure, to depend, would be spoiled, or at least injured by the unwieldy brute which was precipitated into it; and as the surface of the water was nearly twenty feet below the common level, there did not appear to be any means that could be adopted to get the animal out by main force, without the risk of injuring him. There were many feet of water below the elephant, who floated with ease on its surface, and experiencing considerable pleasure from his cool retreat, he evinced but little inclination even to exert what means he might possess in himself of escape.

"A vast number of fascines had been employed by the army in conducting the siege; and at length it occurred to the elephant keeper, that a sufficient number of these (which may be compared to bundles of wood) might be lowered into the well, to make a hill, which might be raised to the top, if the animal could be instructed as to the necessary means of laying them in regular succession under his feet. Permission having been obtained from the engineer officers to use the fascines, which were at the time put away in several piles of very considerable height, the keeper had to teach the elephant the lesson, which, by means of that extraordinary ascendancy these men attain over their charge, joined with the intellectual resources of the animal itself, he was soon enabled to do; and the elephant began quickly to place each fascine as it was lowered, successively under him, until, in a little time, he was enabled to stand upon them; by this time, however, the cunning brute, enjoying the pleasure of his situation, after the heat and partial privation of water to which he had been lately exposed, (they are observed in their natural state to frequent rivers, and to swim very often,) was unwilling to work any longer; and all the

threats of his keeper could not induce him to place another fascine. The man then opposed cunning to cunning, and began to caress and praise the elephant; and what he could not effect by threats, he was enabled to do by the repeated promise of plenty of rack. Incited by this, the animal again went to work, raised himself considerably higher, until, by a partial removal of the masonry round the top of the well, he was enabled to step out. The whole affair occupied about fourteen hours."

### *Mechanical Employment.*

Elephants understand what is said to them, especially when accompanied by signs; but instances have been known where they could be directed by their keeper to perform pieces of work, to which they were by no means accustomed. "I once saw," says M. d'Obsonville, "two elephants employed in demolishing a wall, by the orders of their cornacs, which they had previously received, and were encouraged to undertake the task by a promise of fruits and brandy. They united their powers, placed their trunks together—which were defended by a covering of leather—pushed against the strongest part of the wall, repeating their efforts, while they carefully watched the equilibrium. At length, when sufficiently loosened, by applying their whole strength and giving a violent push, they speedily retreated out of the reach of danger, and the whole wall fell to the ground.

### *Gallantry of an Elephant.*

A wooden house was, in 1818, constructed at St. Petersburgh for the elephants which the Schah of Persia had presented to the emperor of Russia. The male elephant was twelve feet high; his tusks had been partly sawed off, and encircled in golden rings. This was the

same elephant on which the sovereign of Persia used to ride, with a canopy over his head. Several Persians, who were accustomed to attend on these animals, continued to reside at St. Petersburgh. A singular incident took place on one occasion with the male elephant. A lady, whom curiosity frequently attracted to see him, never paid him a visit without carrying along with her some bread, apples, and brandy. One day, the animal, as a testimony of his gratitude, seized her with his trunk, and placed her upon his back. The poor lady, who was not prepared for this act of gallantry, uttered piercing shrieks, and entreated the assistance of those who were standing near. The Persians, however, prudently advised her not to stir, and she was obliged to wait till the elephant placed her on the ground as carefully as he had raised her.

### *Wood Pilers.*

M. Tornen informs us, that elephants are often employed to pile wood at Mahie, on the coast of Malabar, and other parts of India; and that after piling heap upon heap, they have been known to draw themselves back, to see that it was on a level, and perfectly perpendicular, and to correct any inaccuracy in these respects. Elephants also are sometimes employed to roll barrels to a distance, which they do with great speed and neatness.

### *Remarkable Recognition.*

A female elephant, belonging to a gentleman at Calcutta, who was ordered from the upper country to Chittagong, in the route thither broke loose from her keeper, and, making her way to the woods, was lost. The keeper made every excuse to vindicate himself, which the master of the animal would not listen to, but branded the man with carelessness, or something worse,—for it was

instantly supposed he had sold the elephant. He was tried for it, and condemned to work on the roads for life, and his wife and children sold for slaves. About twelve years afterwards, this man, who was known to be well acquainted with breaking elephants, was sent into the country with a party, to assist in catching wild ones. They came upon a herd, and this man fancied he saw amongst the group his long lost elephant, for which he had been condemned. He resolved to approach it, nor could the strongest remonstrances of the party dissuade him from the attempt. Having reached the animal, he spoke to her, when she immediately recognized his voice; she waved her trunk in the air as a token of salutation, and spontaneously knelt down, and allowed him to mount her neck. She afterwards assisted in taking other elephants, and decoyed three young ones, to which she had given birth in her absence. The keeper returned, and the singular circumstances attending the recovery being told, he regained his character; and, as a recompense for his unmerited sufferings had a pension settled on him for life. This elephant was afterwards in possession of Warren Hastings, when governor-general of Hindostan.

### *A Friend Protected.*

A soldier in India was in the habit of giving to an elephant, whenever he received his pay, a certain quantity of arrack. Once, being intoxicated, this soldier committed some excesses, and was ordered to be committed to the guardhouse; but he fled from the soldiers who were sent to apprehend him, and took refuge under the body of his favourite elephant, where he laid himself down quietly, and fell asleep. In vain the guard attempted to seize upon him, and draw him from his place of refuge, for the grateful elephant defended him with his trunk,

and they were obliged to abandon their attempt to secure him. When the soldier awoke next morning from his drunken slumber, he was very much alarmed at finding himself under the belly of such an enormous animal; but the elephant caressed him with his trunk, so as to quiet his apprehensions, and he got up and departed in safety.

### *A Reproof to Royalty.*

The Raja Dowlah chose once to take the diversion of hunting in the neighbourhood of Lucknow, where there was a great abundance of game. The grand vizier rode his favourite elephant, and was accompanied by a train of Indian nobility. They had to pass through a ravine, leading to a meadow, in which several sick persons were lying on the ground, in order to receive what benefit they could from exposure to the air, and the rays of the sun. As the vizier approached with his numerous hunting party, the attendants of these sick persons betook themselves to flight, leaving the helpless patients to their fate.

The nabob seriously intended to pass with his elephants over the bodies of these poor wretches. He therefore ordered the driver to goad on his beast. The elephant, as long as he had a free path, went on at full trot; but, as soon as he came to the first of the sick people, he stopped. The driver goaded him, and the vizier cursed; but in vain. "Stick the beast in the ear!" cried the nabob. It was done; but the animal remained steadfast before the helpless human creatures. At length, when the elephant saw that no one came to remove the patients, he took up one of them with his trunk, and laid him cautiously and gently to a-side. He proceeded in the same way with a second and a third; and, in short, with as many as it was necessary to remove, in order to form a free passage,

through which the nabob's retinue could pass without injuring any of them. How little did this noble animal deserve to be rode by such an unfeeling brute in human form!

### *Surgical Assistance.*

During a war in the East Indies, many Frenchmen had occasion to observe the sensible conduct of an elephant that had received a flesh wound from a canon ball. Having been conducted twice or thrice to the hospital by its cornac, where it lay down at his command to have the wound dressed, afterwards it always went by itself. The surgeon, in employing such means as he thought would conduce to a cure, sometimes cauterized the wound; and, although the animal expressed a feeling of pain, which this operation occasioned it, by groaning, yet it never showed any other sentiment towards the operator but those of gratitude and affection. At length, the surgeon effected a complete cure, when the animal discontinued his visits.

### *Rage and Disappointment.*

A sentinel at the menagerie of the *Jardin du Roi*, at Paris, was in the habit of forbidding visiters from giving the elephant any thing to eat. This admonition was extremely disagreeable to the female elephant, and she took a great dislike to the sentinel in consequence. She had several times endeavoured to make him desist from interfering, by squirting water over him. One day, when several visiters came to see these animals, a person offered a piece of bread, which he had taken on purpose, to the female, which being observed by the sentinel, he stepped forward to repeat his usual admonition, when the elephant, aware of his intention, moved opposite to him, and threw a quantity of saliva in his face. This excited

the laughter of all the bystanders; but the sentinel coolly wiped his face, placed himself a little to one side, and resumed his wonted vigilance. Not long after, he found it necessery to interpose his bayonet between the hand of a person, who was offering the elephant something, and the trunk of the animal, but, scarcely had he done so, when the elephant tore his musket out of his hand, wound her trunk round it, trode upon it, and broke it to pieces.

### *Aggressor Punished.*

It is related by M. Navarette, that an elephant driver at Macassar, upon one occasion, out of mere wantoness, struck a cocoa nut twice against the forehead of his elephant to break it. On the following day, the animal saw some cocoa nuts exposed in the street for sale; it took one of them up with its proboscis, and beat the driver onthe head with it, and killed him on the spot. "So much," says Navarette, "for tampering with elephants."

### *Attachment of Elephants.*

That elephants are susceptible of the most tender attachment to each other, is evinced by the following occurrence, which is recorded in a French journal:—In the year 1786, two young elephants, about two years and a half old, were brought from the island of Ceylon into Holland, as a present to the stadtholder, from the Dutch East India Company. They had been separated, in order to be conveyed from the Hague to the *Jardin des Plantes*, at Paris, where there was a spacious apartment fitted up for their reception. This was divided in the middle, to keep the animals apart, but communicated by means of a portcullis. These apartments were surrounded by a palisade of strong rails. The morning after their

arrival, they were brought into this habitation, the male elephant being first introduced. He examined, with an air of suspicion, the whole place, tried the beams individually, by shaking them with his trunk, to see if they were fast. He endeavoured to turn round the large screws which bound them, but this he found impracticable. When he came to the portcullis between the two partitions, he discovered it was secured only by a perpendicular iron bolt, which he lifted up with his trunk, pushed open the door, and entered the apartment, where he received his breakfast.

It was with great difficulty these animals had been separated; and, not having seen each other for some months, the joy they exhibited at meeting, after so long a separation is hardly to be described. They immediately ran to each other, uttered a cry of joy that shook the whole building, and blew air from their trunks with such violence that it seemed like the blast of a smith's bellows. The pleasure of the female seemed the most lively: she expressed it by moving her ears with astonishing rapidity, and tenderly twining her trunk round the body of the male. She particularly applied it to his ear, where she kept it a long time motionless, and, after having again folded it round his body, she applied it to her own mouth. The male, in like manner, folded his trunk round the body of the female, and the pleasure he seemed to experience was of a sentimental cast, for he expressed it by shedding tears. After that time, they were kept in the same apartment, and their attachment and mutual affection excited the admiration of all who visited the menagerie.

### *Mademoiselle Jack.*

This celebrated female elephant, which was lately exhibited at the American theatre, and in almost all the prin-

cipal cities of Great Britian, in the years 1828, 29, and 30, was an animal of great sagacity. She performed a character, in a piece got up for the purpose, with as much precision as any of the actors: she marched in a procession, carried a letter, and delivered it to a particular character; removed the diadem from the head of the usurper, and placed it on the head of its rightful owner, and carried the prince off the stage with her trunk. A rich banquet was then laid out for her; she sat down at table on her hind quarters, pulled a bell for the servants to fetch, and remove the dishes which she had emptied; drew the cork out of a bottle of wine, took the bottle into her trunk, and emptied it into the aperture of it, rolled part of the proboscis around it, and then poured the liquor down her throat. She then moved in the manner of a dance to music: she took a hat which was placed about eighteen feet from the ground, and placed it on her keeper's head; and all this amid the shouts of the audience which did not at all discompose her.

When this animal was exhibited at the Caledonian Theatre, Edinburgh, it was necessary to erect a gangway from behind, by which she was to ascend to the stage, a height of nearly thirty feet. The caution she exhibited on this occasion was truly wonderful. At every step she ascended, she carefully felt with her trunk every board and support to ascertain if it was secure; and, before she allowed the weight of her body to be upon any spot, she first tried its strength, by gradually pressing upon it as she ascended. The first time she got up, it took her upwards of twenty minutes; and she was equally cautious in her descent. But afterwards, she ascended with comparative rapidity, having become acquainted with its perfect security.

Although Mademoiselle Jack was exceedingly good

tempered, a short time after she left Edinburgh, she killed her keeper in a fit of rage.

### *An Ingenious Fool.*

An amusing anecdote is related by Captain Williamson, of an elephant, which went by the name of the Paugal, or fool, who, by his sagacity, showed he could act with wisdom. This animal, when on a march, refused to carry on his back a larger load than was agreeable to him, and pulled down as much of the burden as reduced it to the weight which he conceived proper for him to bear. One day, the quarter-master of brigade became enraged at this obstinacy in the animal, and threw a tent pin at his head. A few days afterwards, as the animal was on his way from camp to water, he overtook the quarter-master, and, seizing him in his trunk, lifted him into a large tamarind tree, which overhung the road, and left him to cling to the branches, and to get down in the best way he could.



## GENUS LOXODONTA.—F. CUVIER.

*Generic Character.* In the upper jaw, there are two tusks, without canine teeth; the grinders are $\frac{2}{2}\frac{2}{2}$; total 10. The enamel is disposed in lozenges. Head small, round, elongated; ears very large; tail short; proboscis very thick at the base; the feet with five hoofs on the fore feet, and four on the hind feet.

## THE LOXODON, OR AFRICAN ELEPHANT.

LOXODONTA AFRICANUS.—F. Cuvier.

It was not till the acute observations of Baron Cuvier, that naturalists were aware of the specific distinction between the Indian and African elephants; nor is this greatly to be wondered at, as no living African species has been in Europe since the year 1681, until the pacha of Egypt presented a young female to the King of France, in the year 1826. It has always been asserted, that the elephant of Africa differed from the Asiatic in point of temper; the former being said to be of a furious disposition. The specimen now at Paris, however, so far as the habits of a very young animal can be relied on, exhibits none of that ferocity usually ascribed to it.

In addition to the striking difference in the teeth of the African from that of the Indian elephant, the head of the former is smaller, rounder, more elongated, and less irregular; the ears are nearly twice as large, and the tail not above half the length; and his size is considerably larger. We are informed by Mr. Pringle, that he met with a very large individual, which the natives called a bull elephant, which two officers of engineers agreed was fourteen feet high; and Major Denham, in his excursions to the Tchad, saw herds of elephants, which he supposed to be sixteen feet high; but one, which was killed in his presence, measured twelve feet six inches in height.

The mode employed by the Africans to take elephants alive, is in pits. Pliny, whose accounts were in general correct, mentions, that when one of the herd happened to fall into this snare, his companions would throw

branches of trees and masses of earth into the pit, with the intention of raising the bottom, so that the animal might effect his escape. Although this appears to be a species of reasoning hardly to be expected from an animal, yet it has in a great measure been confirmed by Mr. Pringle, a recent traveller in Africa.

### *Amazing Vital Powers.*

Bosman relates, that one morning, at six o'clock, an elephant came towards Fort Mina, on the Gold Coast of Africa, and took his rout along the river, at the foot of Mount St. Jago. Some of the negroes ran after, and about him, unarmed, and he neither exhibited signs of fear, anger, nor suspicion. But a Dutch officer shot at him, and wounded him over the eye. The animal, however, did not alter his course; but, pricking his ears, proceeded to a Dutch garden, where the director-general and some other officers, belonging to the Fort, were sitting under the shade of some palm trees. He made an attack on the trees, and had torn down a dozen of them with the greatest facility, when upwards of a hundred bullets were discharged at him. He bled over his whole body, but still kept his legs, and did not halt in the least. A negro now, to plague the elephant, pulled him by the tail; at which the animal, being provoked, seized him with his trunk, threw him to the ground, thrust his tusks twice through his body, and transfixed him to the ground. As soon as the negro was killed, he turned from him, and suffered the other negroes to take away his body unmolested. He now remained upwards of an hour longer in the garden and seemed to have directed his attention to the Dutchmen, who were sitting at a distance of about fifteen paces from him. As these had expended their ammunition, fearing the animal might attack them, they made good their re-

treat. In the mean time, the elephant reached another gate; and although the garden wall consisted of a double row of stones, he easily threw it down, and went out by the breach. He now walked slowly to a rivulet, and washed off the blood that covered him, by taking a quantity of water in his trunk, and then throwing it over his body. He again returned to the palm trees, and broke some boards that were placed there, for the purpose of building a vessel. The Dutchmen, in the mean time, procured a fresh supply of powder and ball; and their repeated shots causing an immense loss of blood, rendered him unable to make farther resistance; and he fell. To prevent any farther mischief from him, they cut off his trunk, which was accomplished with great difficulty. The pain of this operation caused the animal to utter a hideous roar; he made a violent effort to get up, but fell back and expired. The poor brute had received upwards of two hundred balls in his body, and had never emitted a sound, but that when his trunk was cut off.

### *Death by an Elephant.*

Mr. Burchell, in his *Travels*, gives an account of the death of a native African, by an elephant. It shows the immense power of this animal, and especially exhibits the strength of his proboscis.

Carel Kriegger was an independent and fearless hunter, and being also an excellent marksman, often ventured into the most dangerous situations. One day, having with his party pursued an elephant which he had wounded, the irritated animal suddenly turned, and, singling out from the rest the person by whom he had been injured, seized him with his trunk, and, lifting his wretched victim high in the air, dashed him with dreadful force to the ground. His companions, struck with horror, fled pre-

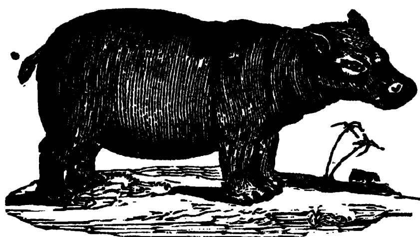
cipitately from the fatal scene, unable to turn their eyes to behold the rest of the tragedy; but on the following day, they repaired to the spot, where they collected the few bones that could be found, and buried them near the spring. The enraged animal had not only trampled his body literally to pieces; but could not feel its vengeance satisfied, till it had pounded the very flesh into the dust; so that nothing of this unfortunate man remained, excepting a few of the larger bones.*



## Genus HIPPOPOTAMUS.—Linnæus.

*Generic character.* The incisory teeth are $\frac{4}{4}$; the canine teeth are $\frac{1\cdot1}{1\cdot1}$; the grinders $\frac{7\cdot7}{7\cdot7}$; total 40; the upper incisory teeth are thick, short, and conical, bent inwards, the lower is directed obliquely forward, the intermediate one is the strongest; the canine teeth are greatly developed, forming strong tusks; the three or four first grinders are conical and simple; the head is thick and square; the muzzle very large; the eyes and ears very small; the body thick and heavy; the skin without hair; the legs short and strong; the feet with four toes; the tail is short, furnished with a tuft of hair; with two ventral teats.

* Burchell's *Travels in Southern Africa.*



THE HIPPOPOTAMUS.

HIPPOPOTAMUS AMPHIBIUS.—*Linnæus.*

The form of the hippopotamus is extremely uncouth; it is superior to the rhinoceros in size, and measures nearly eleven feet in length, and upwards of nine in the circumference of its body, which is fat and round. The head is extremely large, the mouth capable of great expansion, and the teeth are large and strong. The hide in some parts is two inches thick, and is said to be sufficient for a camel's load, when newly flayed.

This species is an inhabitant of the countries bordering on the larger rivers of Africa, and generally where the banks are muddy. It spends the greater part of its time under water, feeding on water plants and roots, at the bottom of rivers. It seldom quits the water, except during the night, in quest of food; but whenever it hears the slightest noise, it betakes itself to that element, and dives instantly to the bottom; and when it ascends to the surface to breathe, the nostrils only are above the level; hence, it is very difficult to kill it.

The hippopotamus is a gregarious animal, and used to be seen in early times in Egypt. It is now seldom to be met with in that country, its ranges seeming to be confined to Southern Africa. Burckhardt says,—"It is very

common in Dongola. It is a dreadful plague there, on account of its voracity, and the want of means in the inhabitants to destroy it. It often descends the Nile as far as Sukkot. In 1812, several of them passed the Bakr el Hadjar, and made their appearance at Wady Halfa and Den, an occurrence unknown to the oldest inhabitants. One was killed by an Arab with a musket ball, over his right eye. The peasants ate the flesh; and the skin and teeth were sold to a merchant of Sioutt. Another continued its course northward, and was seen beyond the cataract of Assouan, at Derau, one day's march north of the place.

During the stay of Mr. Burckhardt at Boeydha, there was a hippopotamus in the river, which made great havoc in the neighbouring fields. He usually left the water at night, voraciously ate up the grain, and destroyed a great deal by his ponderous feet.

Mr. Burchell, who opened the stomach of one, found that it contained about six bushels of chewed grass. The food passes in a very undigested state, and even has more the appearance of mingled grass and straw. He says, the monstrous size, and almost shapeless mass, of even a small hippopotamus, when lying on the ground, appear enormous. The animal is of an uniform colour, which may be correctly imitated by a light tint of China ink. The hide, above an inch in thickness, is hardly flexible; the ribs are covered with a thick layer of fat, known to the colonists as a rarity, by the name of *zeekoe-spek*, or sea-cow pork. This substance can only be preserved by salting, as, in attempting to dry it in the sun, in the same manner as the other parts of the animal are usually treated, it melts away; the rest of the flesh consists entirely of lean.

It is from the skin of the hippopotamus that the cele-

brated whips, called *korbadj*, are manufactured at Sennaar, and other places above it on the Nile. These are sold at Sheudy, at the rate of sixteen for a Spanish dollar; and in Egypt, where they are in general use, and the dread of every servant and peasant, they bring half a dollar each.

We are but imperfectly acquainted with the biography of this animal, arising in a great measure from the peculiarity of its habits.

The time of gestation in the female is said to be nine months, and it produces one at a birth.

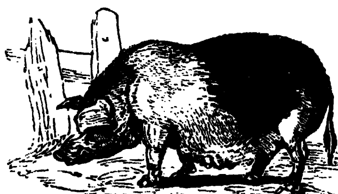
In the south of Africa this animal is sometimes caught in pits made in the paths leading to their haunts. Sparrmann says, notwithstanding the unwieldy appearance of the hippopotamus, it can run with considerable swiftness. He mentions, that a negro, who had irritated one, was pursued by it, and had great difficulty in escaping, after a long pursuit. Professor Thounberg mentions, that while on a hunting party, a female came to land, in order to calve. They concealed themselves among the bushes, till the mother and her calf made their appearance, and were approaching the river. They fired at and killed the female, thinking to secure the young one; but it instinctively made the best of its way to the river, and dived to the bottom.



## Genus SUS.—Linnæus.

*Generic character.* The incisory teeth are $\frac{4}{6}$, or $\frac{6}{6}$; the canine teeth are $\frac{1-1}{1-1}$; the grinders are $\frac{7-7}{7-7}$; total 38. The lower incisory teeth are directed obliquely forward; the upper canine teeth increase in size during the whole

life of the animal, growing out of the mouth; the grinders are simple and tuberculous; all the feet have four toes, the two middle ones only touching the ground; the nose is elongated, cartilaginous, and furnished with a particular bone to the snout; the body is covered with a thick skin, having strong bristly hairs. They have twelve teats.



THE DOMESTIC HOG.

SUS SCROFA.—Linnæus.

This well-known quadruped is a descendant from the wild boar. It presents a great variety of form, proceeding from domestication and food, as well as an admixture of foreign breeds.

The proportions and gait of the hog are clumsy; the head is heavy; the neck short; the limbs in general are thin in comparison to the size of the body; he goes with his head down, and eyes directed forward. When left at liberty, the hog always resorts to humid, marshy, and muddy places, where he digs for roots and worms; he also feeds on frogs, and will eat the offals of markets, and even putrid flesh, and, not unfrequently, chews bones. His usual pace is a kind of trot. The hog possesses but a limited degree of intelligence; he is easily domesticated, becomes familiar and attached to those with whom he is acquainted, and his feeders. The do-

mestic hog goes with young four months, brings forth usually twice a year, producing from ten to twenty at a litter.

The breed of swine has been much improved of late, by crossing them with the Chinese. They are easier fattened, and greatly more prolific. Instances have been known of a sow producing within the space of ten months the amazing number of fifty pigs.

A sow, the property of George Baillie, butcher in Hospital Street, Perth, on the 22d August, 1829, littered the amazing number of *twenty-nine pigs!*

A sow, belonging to Mr. Thomas Richdale, Leicestershire, had produced, in the year 1797, three hundred and fifty pigs in twenty litters; four years before, it brought two hundred and five in twelve litters. Sauban is of opinion, that in twelve generations a single pair would produce as many as Europe could support.

The hog often grows to an immense size. One was killed on Monday, the 23d March 1829, belonging to Mr. Lunton of the Western Inn, Bodmain, which measured nine feet in length, seven feet five inches in girth, and weighed eight hundred and fifteen pounds. It was only twenty-two months old. Some have been known to weigh twelve hundred pounds.

The celebrated Gruyere cheese is said to be made with a mixture of cow's and sow's milk.

In Minorca, the hog is converted into a beast of draught; a cow, a sow, and two young horses have been seen there yoked together. In some parts of Italy, swine are employed in hunting for truffles, (the *Lycopendor tuber* of Linnæus.) A cord is tied round the foot of the animal, and he is led into the fields where this plant is found, and wherever he begins to dig, it is a sure sign

of the plant being immediately under. The hog possesses the sense of smelling and taste in high perfection. Hogs seem to have a great dread of wind; on its approach, they fly to their sty with great precipitation; and, before a storm, they frequently indicate its coming by carrying straw in their mouths.

The hog is naturally of a savage disposition, and sometimes exhibits marks of great ferocity.

### *Shocking Occurrence.*

A woman residing in Sligara near Sligo, Ireland, having occasion to go to a neighbouring well for water, in December, 1829, left her infant sleeping in its cradle. During her absence, nine swine entered the house, dragged the child from the cradle, and commenced tearing it to pieces. The child's cries attracted the notice of some persons passing, who entered the house, and drove off these blood thirsty animals; but it was so much injured that it expired almost immediately.

### *Extraordinary Dwarf.*

There was in the possession of Mr. Charles Knell, of Wateringbury, near Maidstone, in Kent, in December, 1825, a remarkable dwarf pig, weighing only fourteen ounces; it was seven inches in length from the snout to the end of the tail; five inches and a half round the body, and three inches and three quarters in height. The head was rather large in proportion to the body. This extraordinary little creature was in perfect health, fed well, squeaked aloud, and ran very fast; its colour was perfectly white. The pig produced six others at the same time, of the ordinary size.

### *Plan of Defence.*

It is customary for the farmers who reside in the thinly settled tracts of the United States to suffer their hogs to run at large. These animals feed upon acorns, which are very abundant in extensive forests, and in this situation they often become wild and ferocious. A gentleman, while travelling some years ago, through the wilds of Vermont, perceiving at a distance before him a herd of swine, his attention was arrested by the agitation they exhibited. He quickly perceived a number of young pigs in the centre of the herd, and that the hogs were arranged about them in a conical figure, having their heads all turned outwards. At the apex of this singular cone, a huge boar presented himself, who, from his size, seemed to be the master of the herd. The traveller now observed, that a famished wolf was attempting, by various manœuvres, to seize one of the hogs in the middle; but whenever he made an attack, the large boar at the apex of the cone presented himself, the hogs dexterously arranging themselves on each side, so as to preserve the position of defence just mentioned. The attention of the traveller was for a moment withdrawn, and upon turning to view the combatants, he was surprised to find the herd of swine dispersed and the wolf no longer to be seen. On riding up to the spot, the wolf was discovered dead on the ground, a rent being made in his side more than a foot in length, the boar having, no doubt, seized a favourable opportunity, and with a sudden plunge despatched his adversary with his formidable tusks. It is a little remarkable, that the ancient Romans, among the various methods they devised of drawing up their armies in battle, had one exactly resembling the position assumed by the swine above mentioned. This mode of attack they called the *cuneus* or *caput porcinum.*

*The Pig Pointer.*

Toomar, the gamekeeper of Sir Henry P. St. John Mildmay, broke-in a black sow to find game, back, and stand to her point, nearly as steadily as a well-bred dog. This sow was a thin, long-legged animal, one of the ugliest of the New Forest breed. When young it manifested a great partiality for some pointer puppies, then under the care of the keeper at Broomy Lodge. It often played and fed with them, and it occurred one day to Toomar, that, as he had broken many an obstinate dog, he might also succeed in breaking a pig. The little animal willingly cantered along with him a considerable distance from home; he enticed her still farther by means of a kind of pudding, made of barley-meal, which he carried in one of his pockets. His other pocket was filled with stones to throw at the pig whenever she misbehaved, as she was too frolicsome to allow herself to be caught and corrected like dogs. She proved, however, upon the whole, to be tolerably tractable; and he soon taught her what he wished, by this system of rewards and punishments. She quartered her ground as regularly as any pointer, stood stock still when she came upon game, and backed dogs with great steadiness. When she came on the cold scent of game she slackened her trot, and gradually dropped her ears and tail till she was certain, and then fell down upon her knees. So stanch was she, that she would frequently remain five minutes and upwards on her point. As soon as the game rose, she always returned to Toomar, grunting very loud for her reward of pudding, if it was not immediately given to her. When Toomar died, his widow sent the pig to Sir Henry Mildmay, who kept it three years, but never used it, except for the purpose of occasionally amusing his friends. In doing this, a fowl was put into a cabbage net, and hidden amongst the fern

in some part of the park, and the sagacious animal never failed to point it in the manner above described. Sir Henry was obliged at length to part with this sow, from a circumstance as singular as the other occurrences of her life. A great number of lambs had been lost, nearly as soon as they were dropped; and a person being sent to watch the flock, detected this sow in the very act of devouring a lamb. This carnivorous propensity was ascribed to her having been accustomed to feed with the dogs, and to eat the flesh on which they fed. Sir Henry sent her back to Mrs. Toomar, who sold her to Mr. Skyes, of Broakwood, in the New Forest, where she died the usual death of a pig, and was converted into bacon.

It is by no means a rare occurrence for hogs to feed on flesh; it is well known that they frequently destroy fowls and ducks, when they can secure them.



THE WILD BOAR.

SUS SCROFA, VARIETY AFER.—Linnæus.

The wild boar is the original from which all tame varieties of the hog have sprung. It is not subject to the variety of the domestic races, but uniformly of a brindled or dark gray, inclining to black. His snout is longer than that of the tame hog, and his ears are short, pricked, round, and black. He is adorned with formidable tusks in each jaw; these serve him for the purpose of defence, as well as for digging his food, which cheifly consists of

roots and vegetables. Some of these tusks are nearly a foot long; those in the upper jaw bending upwards in a circular form, and are exceedingly sharp at the points; those of the under jaw are, however, always most to be dreaded, for with them the animal defends himself, and frequently gives mortal wounds.

Wild boars are not gregarious; they live generally apart from the females, except in the rutting season. The females, with their young, form immense herds, for mutual defence. If they are attacked, the females always appear in front, squeezing themselves into a compact line, with the young in their rear.

The pursuit of the wild boar is a favourite pastime with the Germans. It is attended with great danger; its large tusks rendering it not only formidable to the dogs, but also to the hunters. The dogs chiefly used for this sport are of a strong heavy kind. When the boar is roused from his lair, he proceeds slowly forward, and does not attempt to make great head of his pursuers; on the contrary, he frequently turns round, waits till they come up, and offers to attack them. Dogs are not rash to assault the animal; and after keeping each of them at bay for some time, he again breaks slowly away, and the pursuit is renewed. The chase is continued in this manner till the boar gets tired, and halts; the dogs then attempt to close with him from behind. If the dogs are young and inexperienced, their temerity often costs them their lives; the old ones merely keep him at bay, till the hunters come to their assistance, who despatch the boar with their spears.

The wild boar inhabits Asia, Africa, Europe, and America, but has not been yet discovered in New Holland. They are amazingly plentiful in the extensive forests of Germany; and frequent the most retired situations.

## THE BABYROUSSA.

SUS BABYRUSSA.—Linnæus.

This animal inhabits the Indian islands, but its habits are little known to naturalists; and this is the more singular, as it has been long discovered. It is certainly the animal mentioned by Pliny in his eighth book, chapter third.

The most distinguishing character of the babyroussa consists in its four tusks, the two strongest of which proceed from the under jaw like those of the wild boar, pointing upwards, and standing nearly eight inches out of the sockets; the other two rise up like horns on the outside of the upper jaw, just above the nose, and extend in a curve over the eyes, almost touching the forehead, and are fully twelve inches in length. These tusks are of the most beautiful ivory, but not so hard as those of the elephant.

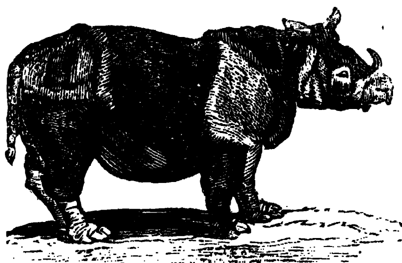
The form of this animal is not so clumsy as those of the other species of the genus; its legs are longer, its body more slender, and covered with a kind of short wool-like hair, of a reddish ash colour; the skin is thin, beneath which is a coat of lard, and the flesh is said to be extremely palatable.

The sense of smelling in this animal is very acute, and its voice resembles the grunting of a pig. When hunted, it flies to the sea, and, being an excellent swimmer, it passes from one island to another in the Indian Archipelago.

No perfect specimen of this quadruped has yet reached Europe or America.

## GENUS RHINOCEROS.—LINNÆUS.

*Generic character.* There are no incisory teeth, or they are $\frac{2}{2}$ or $\frac{4}{4}$; without canine teeth; and the grinders are $\frac{7\,7}{7\,7}$ or $\frac{6\,6}{6\,6}$; total 32 or 36. When incisory teeth exist, they are unequal among themselves; the anterior grinders are small; the posterior increasing progressively; the eyes are small, lateral, and placed far back in the head; ears long and narrow; there are three toes on all the feet, and one or two horns placed on the nose, above the nasal cavity; skin very thick, naked, and rough; the tail is short, and laterally compressed; with two teats.



THE INDIAN RHINOCEROS.

RHINOCEROS INDICUS.—Desmarest.

This animal has one solid, conical horn on the nose, sometimes three feet in length, and eighteen inches in circumference at the root, and two incisory teeth in each jaw, with a small tooth on each side of these in the upper jaw; the skin, which is of a blackish colour, is disposed about the neck into large plaits or folds; a large fold passes from the shoulders to the fore legs, and another from the thighs; the skin is naked and rough, and cover-

ed, with large tubercles, or granulations, which extend over the legs and feet. Between the great folds, under the belly, the skin is very soft, and of a rose colour.

The body of this animal is little inferior in size to the elephant, but he is much shorter in the legs; his length from the muzzle to the tail, is nearly twelve feet, and the girth about the same measurement; and, from the shortness of its legs, the belly nearly touches the ground. The pendulous upper lip of the rhinoceros assists it in a great measure to collect its food.

The Indian rhinoceros, without being ferocious, is very intractable and rude. It is subject to paroxysms of fury, which nothing can appease. It frequents moist and marshy ground, is fond of wallowing in the mire, and seldom quits the banks of rivers. It inhabits Bengal, Siam, Java, Sumatra, Ceylon, and many places of Africa. It does not seem a numerous species and is less diffused than the elephant. The female produces but one at a time.

The sense of smell in the rhinoceros is said to be exquisite, and hunters are, in consequence, always obliged to keep to the windward of him. They follow him unobserved till he lies down to sleep, then steal close to him, and discharge their muskets in the lower part of his belly, where the skin is soft.

The rhinoceros can run with great swiftness, and, from his strength and hard impenetrable hide, he is capable of rushing through thickets with resistless fury; almost every obstacle is quickly overturned.

The first rhinoceros which was brought to England was in 1684. The next we have any distinct account of was imported from Bengal about the year 1743. Another was brought from Atchaws, in the dominions of the King of Ava, and was exhibited at Paris. He was exceedingly

docile, and showed great fondness for some of his attendants. He was fed upon hay, corn, and sharp prickly plants, of which he was excessively fond.

The following particulars of a rhinoceros, exhibited at Exeter Change, was obtained by Sir Everard Home, from the person who kept him for three years, when it died; and published in the *Philosophical Transactions.** "It was so savage," says he, "that about a month after it came, it endeavoured to kill the keeper, and nearly succeeded. It ran at him with the greatest impetuosity, but, fortunately, the horn passed between his thighs, and threw the keeper on its head; the horn came against a wooden partition, into which the animal forced it to such a depth as to be unable for a minute to withdraw it, and, during this interval, the man escaped. Its skin, though apparently so hard, is only covered with small scales, of the thickness of paper, with the appearance of tortoise shell; at the edges of these the skin itself is exceedingly sensible, either to the bite of a fly or the lash of a whip. By this discipline, the keeper got the management of it, and the animal was brought to know him; but frequently, (more especially in the middle of the night,) fits of frenzy came on; and, while these lasted, nothing could control its rage, the rhinoceros running with great swiftness round the den, playing all kinds of antics, making hideous noises, knocking every thing to pieces, disturbing the whole neighbourhood, and then; all at once, becoming quiet. While the fit was on, even the keeper durst not make his approach. The animal fell upon its knee to enable the horn to be borne upon any object. It was quick in all its motions, ate voraciously all kinds of vegetables, appearing to have no selection. They fed it on branches

* 1822 pages 43, 44.

of willow. Three years confinement made no alteration on its habits."—One or two of these animals have recently been brought to this country for exhibition.

## THE AFRICAN RHINOCEROS.

RHINOCEROS AFRICANUS.—Desmarest.

The two-horned rhinoceros has no incisory teeth in either jaw, and is furnished with two erect horns on the nose, the lower one being longer than the upper. These horns are said to be movable when the animal is in a quiescent state, and to become perfectly firm when enraged. He differs materially from the Indian rhinoceros in the appearance of his skin, which is devoid of the large folds and wrinkles of that species, having merely a slight plait across the shoulders, and some fainter wrinkles on the sides, being comparatively smooth when opposed to the Indian species, having no hair on any part of it, except at the edge of the ears, and extremity of the tail. Mr. Burchell ascertained that musket balls, composed of lead and tin, easily penetrated the skin of this species, though they were flattened by striking against the bones; but he is of opinion, that balls of lead alone, or, if fired with a weak charge of powder, might possibly be turned by the thickness of the hide. The flexible upper lip in this animal, like that of the former species, is of great use in collecting its food.

The organs of smell, and other senses, in this species strongly resemble that of the Indian rhinoceros, and its habits are so nearly allied, that a repetition of them is unnecessary.

### *Rhinoceros Hunt.*

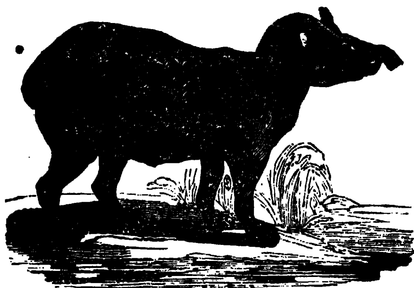
Some years ago, a party of Europeans, with their na-

tive attendants and elephants, met with a small herd of seven of them. These were led by a larger and more powerful animal than the rest. When this large leader charged the hunters, the first elephants, in place of using their tusks as weapons, which they are generally in the practice of doing, wheeled round, and received the blow of the rhinoceros's horn on their hind quarters; and, so powerful was the concussion, that it brought them instantly to the ground, with their riders; and as soon as they could get on their feet again, the brute was ready to repeat the attack, and was certain to produce another fall; and in this manner did the contest continue, until four of the seven were killed, when the rest made good their retreat.



## Genus TAPIRAS.—Cuvier.

*Generic character.* The incisory teeth are $^{6}$; the canine teeth are $\frac{1\,1}{1\,1}$; the grinders are $\frac{7\,7}{7\,7}$; total 44; the intermediate incisory teeth are shorter than the exterior; the nose is elongated, forming a small movable proboscis, but not prehensile; the eyes are small; the ears long and movable; the fore feet with four toes, and the hind feet with three; each toe is furnished with a short round hoof; the tail is very short, with two inguinal teats.



THE AMERICAN TAPIR.

TAPIRUS AMERICANUS.—Desmarest.

The American tapir is about six feet in length, from the point of its proboscis to the insertion of its diminutive tail. Its colour is of a deep brown, approaching to black, with the exception of the sides of the lower lip, a band, occupying the middle of the chin beneath, the upper edges of the ears, and a naked line at the junction of the hoofs, all of which are purely white. The hair is rather thin all over the body, very short, and so closely pressed to the surface, as to be hardly perceptible at a little distance. It has a thick rounded crest, commencing between the level of the eyes, and extending to the bottom of the neck. This crest is formed internally of a powerful ligament, stretched between the spinous processes of the vertebræ of the neck, and a strong elevated ridge, occupying the line of junction between the parietal bones of the skull. This singular crest is surmounted by a thin mane of stiff black hairs.

This species passes a solitary state of existence, secluded in the impenetrable depths of mighty forests, even avoiding its own species, and keeping remote from the neighbourhood of man. It is seldom to be seen during

the day, and goes abroad in quest of food in the night only; and, being one of the most omnivorous of all animals, it feeds on any thing which comes in its way, having the most astonishing powers of digestion. It seems, however, to prefer wild fruits, buds, and shoots of trees. D'Azara says it is also fond of the barrero, or nitrous earth, of Paraguay. Individuals have been killed with pieces of wood, clay, small stones, and bones, in their stomachs. He kept a domesticated one, which gnawed and swallowed a silver snuff-box; and the specimens confined in menageries have been known to devour greedily the worst of all possible filth. In a domesticated state, they eat bread, cassava, herbs, roots, fish, and flesh, either raw or roasted; rags, and, in short, any thing eatable, is their indiscriminate food.

The tapir is a peaceable animal, and never attacks man or beast, unless from provocation. It is frequently hunted, on account of its flesh, which the native Indians think extremely fine; but more polished society consider it rank and disagreeable; and its hide is highly valued on account of its great thickness. Sonnini assures us, he has frequently fired at a female tapir, crossing a river with her young, his gun heavily loaded, without giving her the last annoyance, or diverting her from the course she was pursuing, although he could distinctly see the impression of the ball on her skin. When pursued by dogs, the tapir always takes to the water, where he defends himself with great obstinacy; and, in this situation, it is impossible for dogs to overpower him, as he is standing on his feet, while they are swimming. When they approach, he seizes them in his teeth, shakes them, and frequently takes out the piece by which he held, and otherwise wounds them severely.

This animal is very fond of the water, and bathes

whenever he awakes from his sleep. The range of the tapir is more extensive than that of any other animal of his size. He inhabits every part of South America, east of the great chain of the Andes, from the Straits of Magellan to the Isthmus of Darien; but is most abundant within the Tropics. His highest range, in the province of Maraquita, appears to be from three to four thousand six hundred feet above the level of the sea.

Sonnini tells us, that in Cayenne, the tapir is domesticated, and allowed to walk at liberty in the streets. The tame ones abandon their nocturnal habits, and go during the day to the neighbouring woods to feed, always returning home at night. They are fond of being noticed, and will follow their master, exhibiting various tokens of attachment.

The female produces in November, and only one at a time, in the care of which she is entirely unassisted by the male.



## GENUS EQUUS.—LINNÆUS.

### THE HORSE.

The domestication of the horse may be regarded as one of the most important acquisitions made by man from the animal kingdom. Without this useful quadruped, civilization must have made comparatively but little progress, and we should have been later, by several centuries, in emerging from barbarism. The horse contributes largely to our luxuries and service; he facilitates and lessens the labours of the field; he transports burdens, and man himself, to the most distant parts, with certainty, celerity, and ease; he is ever the faithful and obedient servant of his master. His form and sagacity have been most admirably adapted for our use, by HIM, whose wisdom and power are infinte; he is fitted, in an eminent degree, to supply a most important place in the scale of being; in the words of Stillingfleet, he

> ———————"holds a rank
> Important in the plan of Him, who framed
> This scale of beings; holds a rank, which, lost,

Would break the chain, and leave behind a gap
Which Nature's self would rue."

The horse is formed with such a pliability of physical structure and constitution, that man may mould him to the form or bulk best fitted for the particular service in which he is to be employed. Whether we contemplate the powerful and symmetrical structure of his frame; the elegance of his limbs, evincing strength and speed in their movements; the delicacy and glossy sleekness of his skin; his large and sparkling eyes, which either beam with mild intelligence, or flash with energetic fire; or the docility and tractability of his disposition; we cannot fail to regard him as one of the noblest works of creation. In addition to these qualities, he is possessed of the most intrepid courage, and the greatest generosity of disposition; he has been, from the most remote ages, the bearer of man in the field of carnage, where he fearlessly meets every danger: the most appalling discharges of musketry, and the thunder of a cannonading, he faces with a fortitude as dauntless as that of his rider, and seems even to enter into the spirit of the attack. This has been his character in all ages, for he is spoken of by Job in the following powerful language, where God is introduced as setting forth the great works of his creation; from which, it would seem that the horse was expressly formed for the day of battle; for, says he, "Hast thou given the horse strength? hast thou clothed his neck with thunder? canst thou make him afraid as a grasshopper? The glory of his nostrils is terrible: he paweth in the valley, and rejoiceth in his strength; he goeth on to meet the armed men. He mocketh at fear, and is not affrighted; neither turneth he back from the sword. The quiver rattleth against him, the glittering spear and shield. He swal-

loweth the ground with fierceness and rage, neither believeth he that it is the sound of the trumpet. He saith among the trumpets, Ha, ha! and he smelleth the battle afar off, the thunder of the captains, and the shouting."

## THE ARABIAN HORSE.

After a careful consideration of all that can be gleaned from the writings of the earliest historians and naturalists, as well as of those who have visited Arabia in modern times, it is indisputable, that that country is not the original abode of the horse, although it is there alone where he is to be found, in a domesticated state, in his greatest beauty and symmetry of form,—there that he is preserved without any foreign admixture, possessing all the qualities for which this noble animal is so justly famed; exquisite proportions, elegant structure in every part of the body, fleetness and docility of disposition, are his genuine characteritics; and these he seems to have preserved from his earliest introduction.

Xenophon, in his "Treatise De Re Equestri," describes almost exactly the eastern horses as they are to be found at the present time.

The dry air and soil of Arabia seem peculiarly adapted to produce hard muscular fibre, both in man and animals. The Bedouin Arabs are poor, lean, miserable looking people; but, like their steeds, they can endure the most extraordinary privations and fatigue, travelling, in that parching climate, for days together, without having the means of allaying their thirst. Mr. Smith properly observes, that "he should suppose it just as likely that a man would breed good runners (however good the blood) among marshes and bogs, as he would cart-horses in the

deserts of Arabia. The former would get loaded with flesh and phlegm, and the latter would melt and starve."

The pure Arabians are somewhat smaller than our race horses, seldom exceeding fourteen hands two inches in height. Their heads are very beautiful, clean, and wide between the jaws; the forehead is broad and square; the face flat; the muzzle short and fine; the eyes prominent and brilliant; the ears small and handsome; the nostrils large and open; the skin of the head thin, through which may be distinctly traced the whole of the veins, the neck rather short than otherwise. The body may, as a whole, be considered too light, and the breast rather narrow; but behind the arms, the chest generally swells out greatly, leaving ample room for the lungs to play, and with great depth of ribs. The shoulder is superior to that of any other breed; the scapula, or shoulder-blade, inclines backwards nearly in an angle of forty-five degrees; the withers are high and arched; the neck beautifully curved; the mane and tail long, thin, and flowing: the legs are fine, flat, and wiry, with the posteriors placed somewhat oblique, which has led some to suppose that their strength was thereby lessened—but this is by no means the case; the bone is of uncommon density; and the prominent muscles of the fore-arms and thigh, prove that the Arabian horse is fully equal to all that has been said of its physical powers. The Arabian is never known, in a tropical climate, to be a roarer, or to have curbs, the shape, from the point of the hock to the fetlock, being very perfect. It is a remarkable fact, that the skin of all the light-coloured Arabians is either pure black, or bluish black, which gives to white horses that beautiful silvery gray colour so prevalent among the coursers of noble blood. Bay and chestnut are also common, and considered good colours. It has been remarked in India, that

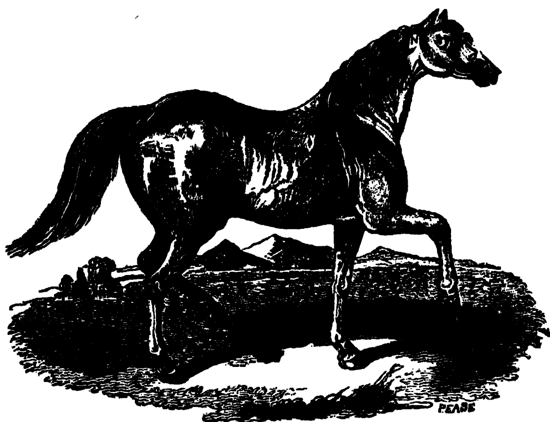
no horse of a dark gray colour was ever known to be a winner on the turf. If an Arabian horse exceed fourteen and a half hands in height, the purity of his blood is always doubted in India. Captain Horne, of the Madras Horse Artillery, who has been extremely successful on the turf, and has had some of the best Arabian horses, says, he never knew one above that height. *Esterhazy* was fifteen hands, but universally believed to have descended from English stock. Some of the fastest horses which he remembers were even under fourteen hands, viz. *Wildblood* was thirteen hands, three and seven-eighth inches; *Pyramus*, thirteen hands, three and a half inches; and *Fadlallah*, thirteen hands, three and three-eighth inches.

In Arabia they have different breeds of horses, and reckon three of these as very distinct. A tradition among them is, that the two inferior kinds were the produce of horses introduced from India and Greece; but little dependence can be put on this. The coursers of the second class, although ancient, have been mixed with plebeian blood, and are nevertheless deemed semi-noble by the natives. The last class comprehends the common horses, which are sold at a cheaper rate; and there is not an Arabain, how poor soever, but is possessed of a horse. The coursers, or superior kind, bring five hundred French crowns, and some have even been sold so high as from four thousand to six thousand livres. Sometimes they are to be had very cheap, when they have certain marks, which are regarded by the superstitious Arabs as signs of bad fortune.

The first Arabian which was introduced into England, of which we have any authentic account, was in the reign of James the First, and was in the possession of Mr. Markham, a merchant, from whom he was purchased

by that monarch for the sum of five hundred pounds sterling. The only quality which this horse seemed to possess was his fine form, as he was by no means celebrated as a racer. This circumstance tended to bring the Arabian breed into disrepute in England, as few, if any, were imported betwixt that period and the reign of Queen Anne; from the early part of which the great epoch in the history of the turf may be dated, as at this time that superlative horse, the Darley Arabian, was brought to England. He was procured from the deserts of Arabia by a Mr. Darley, a rich and extensive merchant, settled at Aleppo, and strict reliance may be placed on the purity of his blood. From this admirable horse is descended a race of the finest steeds in England; and he was the sire of the fleetest racer that ever ran, the FLYING CHILDERS, whose descendants have, in general, been of the best quality.

The Darley Arabian may therefore be considered the horse which turned the tide of fashion in favour of the Arabian breed amongst the lovers of the turf in Great Britain. The rage for importing these horses became excessive, and, in consequence, vast numbers were brought to this country from different parts of the East, on the purity of whose blood no dependence could be placed. Every young and fashionable sportsman must needs be possessed of an Arabian horse in his stud; so that dealers found it their interest to import as many Eastern coursers as possible to satisfy the demand.




THE WELLESLEY ARABIAN.

This remarkably fine horse was, in figure and proportions, much resembling the war-horse, or charger, of Europe; at the same time, possessing the delicate skin and fine nose of the eastern breed. He must have been originally from some of those fertile plains which border on Arabia, yielding more nutritious food than is usual in that arid region, and his race must, in consequence, have acquired that great size which seems only to appertain to horses fed in districts where the herbage is luxuriant, as we find the European horses do in such pastures. His hoofs were like them also, much expanded.

THE BUCKFOOT ARABIAN.

This famous horse was sent to England by Colonel Robert Stevenson, as a present to his godson, A. R. Thornhill, Esq., and landed in September, 1828. He is a beautiful silver gray, fourteen hands and a half high, with extraordinary bone and muscular power, and show-

ing the highest blood, with the finest action in all his paces. He is supposed to be the best that ever ran in India. The following account of his performances, prove him to be a first-rate horse. He is known to have run three miles in six minutes and eight seconds, and two miles in three minutes and fifty-eight seconds. He was remarkable for his powers of continuance.

At Bombay, in January, 1822, he won a sweepstakes of twenty gold mohurs each, for Arabian horses that had never started; Heats, two miles, carrying eight stone seven pounds each; Won by several lengths, beating Warton, Robin Hood, Legs, and Langolee. The same meeting, he won a subscription plate of one hundred pounds, added to a sweepstakes of one hundred rupees each, beating Beningbrough, Marquis, and Recorder: heats, two miles: won by two lengths. From the known goodness of Beningbrough, this race excited great interest. At the second meeting, 22d January, 1822, a gold cup, value one hundred guineas, was given by H. Meriton, Esq., for all Arabian horses, to carry eight stone seven pounds each: those that had won one plate, &c. to carry seven pounds extra; two or more, ten pounds extra. This race was won by Buckfoot by three or four lengths, beating Beningbrough and Proxy. On the third and last day, a gold cup was given by the Turf Club: heats, two miles; three hundred rupees, each carrying nine stone, won by Buckfoot, beating Beningbrough.

Buckfoot was afterwards sold for twelve hundred pounds to the Hon. Arthur Henry Cole, who changed his name to Grantham; and at Madras, he beat nearly a distance the Hon. Mr. Murray's Fairplay, considered the fastest horse in that side of India.

## THE BARB.

The present horses of Morocco, are a race nearly allied to the Arabian, and have been produced by a cross with those of Algiers, which are supposed to have had their origin in a south European breed, crossed with the Arabian. They are somewhat larger than the Arabian, with fine heads and crests, and, in general, well formed about the shoulder, straight backs, and droop considerably towards the haunches. They are exceedingly swift. As none of them are geldings, they are possessed of great spirit, and are naturally fiery in their dispositions.

The forehead of the Barb is generally long and slender, and his mane rather scanty; his ears are small, beautifully shaped, and placed in such a manner as to give him great expression; his shoulders are light, flat, and sloping backwards; withers fine, and standing high; loins short and straight; flanks and ribs round and full, without giving him too large a belly; his haunches strong and elastic; the croup is some times long to a fault; the tail is placed high; thighs well turned and rounded; legs clean, beautifully formed, and the hair thin, short, and silky; the tendons are detached from the bone; but the pasterns are often too long, and bending; the feet rather small, but in general sound.

## THE RACE HORSE.

The race horses of Great Britain and Ireland bear a strong resemblance, in their whole shape, to the Arabian horse, and also to the Barb. And this is only what might be expected, as they contain a great deal of the blood of these varieties. Indeed, all their movements

indicate their eastern origin. They are, however, much larger. In speed, the English race horses are equal, if not superior, to all other coursers in the world. One thing is quite certain, that all the Arabians, Persians, Barbs, and Turks, which have been brought into England, have been beaten by English race horses; and even on the burning plains of the East, most nearly allied to the native soil of the Arabian, and also in the frigid temperature of Russia, the British racer has always proved himself swifter than any horses brought to compete with him. A few years back, Pyramus, the best Arabian steed on the Bengal side of India, was beat by Recruit, an English racer of but moderate reputation. For carrying weight, and long endurance of exertion, or what, in the language of the turf, is called *bottom*, the English racers have the decided advantage of all other horses. Their high courage, determined spirit, and patience under every suffering, all indicate the purity of their lineage. An ordinary racer is known to go at the rate of a mile in less than two minutes; but there have been instances of horses running nearly a mile in *one* minute.

The form of the head, in the racer in particular, is like that of the Arabian. His beautifully arched neck is firmly set on, and his shoulders are oblique and lengthened; his hind legs are well bent; his quarters are ample and muscular; his whole legs are flat, and rather short from the knee downwards, although not always so deep as they ought to be; his pasterns are long and elastic.

But horses possessing all these points in seeming perfection, are too often found to be useless tame brutes. Two points of those enumerated generally turn out well, viz. when the shoulder is well placed, and the hinder legs well bent.

*Thorough-bred* is a term employed in Britain to indi-

cate the descent of a horse from a south-eastern courser. The English racer has therefore been the progressively improved breed, from a commixture of our own horses with those of Asia. The horses of the first blood, or such as are the nearest possible to the eastern stock, are, those immediately produced from an Arabian, or Barb; any stallion with an English mare, which has been already crossed with a Barb or Arabian steed, in the first degree; or that which has sprung from two crossings in the same degree.

### THE FLYING CHILDERS.

This horse was well known by the name of the Flying or Devonshire Childers. He was the property of the Duke of Devonshire, and allowed, by sportsmen, to be the fleetest horse that ever was bred in the world. He started repeatedly at Newmarket against the best horses of his time, and was never beaten. He won, in different prizes, to the amount of nearly £20,000, and was afterwards reserved for breeding. The sire of Childers was an Arabian, sent by a gentleman as a present to his brother in England. Childers was somewhat more than fifteen hands in height. He was foaled in 1715, and was the property of Leonard Childers, Esq. of Carr House, near Doncaster, and sold when young to the Duke of Devonshire.

It is said that Childers was first used as a hunter, where he evinced high qualities, and was noted for being very headstrong, as well as vicious. He had not, however, any restiveness. It is supposed his racing career commenced at five or six, and he beat all competitors at whatever distance. He was never tried at runing a single mile, but his speed must have been almost a mile

in a minute. Carrying nine stone two pounds, he ran over the round course at Newmarket, which is three miles six furlongs and ninety-three yards, in six minutes and forty seconds. He also ran over the Beacon course, which is four miles one furlong and one hundred and thirty-eight yards, in seven minutes and thirty seconds; covering at every bound a space of about twenty-five feet. On one occasion he made a spring or leap, with his rider on his back, on level ground, of twenty-five feet.

Childers died in the Duke of Devonshire's stud in 1741, aged twenty-six years.



THE HUNTER.

The hunter is a combination of the thorough-bred race-horse, and half-bred horses of greater strength, and less lengthy in their carcass. He should be from fifteen to sixteen hands in height. The points most likely to discover a horse of good properties as a hunter, are, a vigorous, sanguine, and healthy colour, with a lofty fore-

head, a head and neck as light as possible, whether handsome or not, a quick-moving eye and ear, clear wide jaws and nostrils, large thin shoulders, thighs strong and muscular, chest deep, and back short, ribs large and wide, fine bones, tail high and stiff, gaskins well spread, and hind quarters lean and hard. Above all, let his joints be strong, firm, and closely knit, his legs and pasterns rather short; for perhaps there never was yet a long limber-legged horse, that was able to gallop down steep hills, and take bold leaps, with a weight upon his back, without sinking or foundering; and, lastly his feet should be moderately large and sound. With these points, he is likely to have the qualifications requisite to make a good hunter.

It must be observed, that it is not every good and fleet horse that is a good hunter; for he may have strength and vigour for a long journey, and yet not be able to bear the shocks and strainings of a chase; another may be swift enough to win a plate on smooth turf, which yet will be crippled or heart-broken by one hare in February. The right hunter ought to have strength without weight, courage without fire, and speed without labour, a free breath, a strong walk, a nimble, light, but large gallop, and a sweet trot, to give change and ease to the speedy muscles.

But we cannot give a better description of the hunter, than what will be found in the following verses:—

## THE SPORTSMAN'S CHOICE.

Much famed is the Arabian breed, but best
The horse whom sportsmen prize above the rest;
Such he whose shapes with these perfections crown'd—
Lightly he shifts his limbs, with speed he scours the ground;
Something above his head his neck should rise,
With looks erect, full fifteen hands in size;

His chop should to his neck below incline,
And his full front with sprightly vigour shine;
Let waving locks adown his foretop fly,
And brills embrown'd should edge his broad bright eye;
Wide nostris, ample mouth, and little ears;
Arch'd be his neck, and fledged with floating hairs,
Like a plumed helmet, it nods its crest;
Broad and capacious be his stately chest;
Let his strong back be furrow'd with his chine,
His tail branch out in a long bushy line;
Clean be his thighs, and sinewy, but below
Straight, long and spare, his well turn'd shanks should show;
Lean be his legs, and nimble as the stag's
With whom in speed, the fleetest tempest flags;
Firm let him tread, and just, and move along
Upon a well-grown hoof, compact and strong;
Proud of the sport, with too much fire to yield,—
Such be the horse to bear me to the field!

### *Extraordinary Flying Leap.*

About the year 1790, a gentleman, then clerk of his Majesty's works at a royal palace, while hunting with the fox-hounds near Oldiham, absolutely took a flying leap over the head of another, who had dismounted, and was in the act of removing the upper sliding bar of six that separated some high paling, and served as a gateway upon harvest occasions.

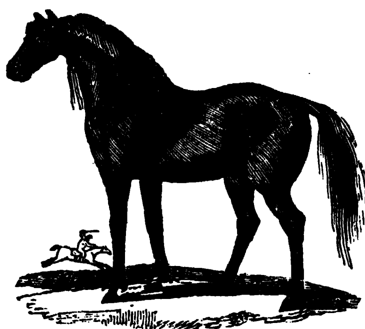
### *Nature Outwitted.*

Mr. John Barrow of Meathop, near Hull, in June, 1822, had an excellent brood mare killed by a blow on the head. It had a foal at the time, and in order to bring it up, he ordered it to be fed on cow's milk seven or eight times each day. Not long after, the same gentleman lost a foal belonging to another brood mare; and to induce this mare to nurture the foal of the dead one, Mr. Barrow made use of the following stratagem: He had the

skin of the dead foal carefully taken off, and ingeniously stitched upon the body of the living one, which effectually deceived the mare, and they did extremely well, only the little animal cut rather an awkward figure, Mr. Barrow not being quite equal to dame Nature at fitting a skin. It was removed in about a fortnight, when the mare continued to foster the little animal with as much tenderness as if it had been her own.

### *Banks's Celebrated Horse.*

One of the most intelligent of horses seems, from all accounts, to have been one called Morocco, belonging to Mr. Banks, whose renown is alluded to by Shakspeare, in "Love's Labour Lost," act first, scene second; and by Dekker, in his "Untrussing of the Humorous Poet." It is related of this horse, that he would restore a glove to its owner, after his master had whispered the man's name in his ear; that he would tell the number of pence in any silver coin. He danced, likewise, to the sound of a pipe, and told money with his feet. Sir Walter Raleigh says, "that had Banks lived in older times, he would have shamed all the enchanters in the world; for whosoever was most famous among them, could never master or instruct any beast as he did his horse."



## GENUS CAMELUS.—LINNÆUS.

*Generic character.* The incisory teeth are $\frac{2}{6}$; the canine teeth are $\frac{1\,1}{1\,1}$; the false grinders $\frac{1\,1}{1\,1}$; the grinders $\frac{5\,5}{5\,5}$; total 36. The lower incisory teeth are wedge-shaped; the upper ones lateral; the canine teeth are conical, erect, and strong; the false grinders on each side separated from the other teeth; the head and neck are long; the upper lip is cleft; the nostrils are slit obliquely.



THE BACTRIAN CAMEL.

CAMELUS BACTRIANUS.—Linnæus.

This species is readily distinguished, by having two haunches, one on the shoulders, and the other on the croup. His height is considerably superior to the Arabian camel. One which was exhibited in London, in June, 1829, measured eight feet, from the part of the back between the humps, to the ground. The legs are proportionally short, and the body long. The dark brown hair which covers their body is long, of a fleecy texture, and shaggy, particularly so on the crown of the head, the jaws, the higher part of the neck, the throat, and legs.

The feet of this genus are very singular productions

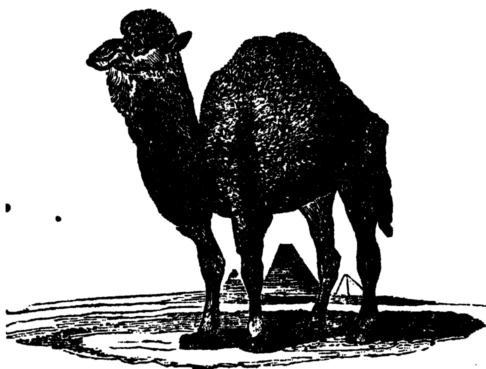
of nature, admirably fitted for treading on a smooth or soft surface. It is divided into two toes, covered with a broad nail on each, which are not separated; and thus the foot is intermediate between the hoof of a horse, and a cloven foot. From the heel forwards, it has a horny sole, uniting the middle part, and leaving the toes free. This sole is part of an elastic substance, which, being bedded in two cavities of the foot, yields to the pressure of the soil; whilst the toes spread upon touching the ground, in the same way that the foot of the rein deer extends, to present a large surface to the snow. By this contrivance, the camel is prevented from sinking into the soft sand of the desert tracts which it has so frequently to cross. Mr. Macfarlane, who travelled in Asia Minor, is of opinion, that camels do not suffer much inconvenience from travelling over rocky tracts, covered with debris; and, although he met with hundreds in a day, he never saw a wounded hoof.

The original country of this animal is supposed to be ancient Bactriana, the present Turkestan. They have now spread over Persia, Thibet, and China. It is, however, rare, except in the great middle zone of Asia, to the north of Taurus, and the great Himalaya range. It is capable of enduring a much colder and more moist climate than the Arabian species. They have been known to exist in the neighbourhood of Lake Baikal, in Siberia, where they subsisted during winter on the bark and tender branches of birch, and other trees.

The camel lives to a considerable age; but, like our horses, its existence is shortened by labour. One which was kept in the menagerie of the *Jardin du Roi*, at Paris, was supposed to have been nearly fifty years old when he died. The food of this animal is hay or lucern, of which he consumes about thirty pounds a-day; and a

draught of six gallons of water will satisfy the animal for some days.

It is supposed, that the Bactrian camel is extinct in a wild state; although Pallas says, they are found wild in the deserts of Mamo near the frontiers of China. Burckhardt says, he saw herds of them in nearly a wild state, which were left at pasture, without any attendants, kept for their flesh and milk alone.



THE ARABIAN CAMEL.

Camelus Dromedarius—Linnæus.

The Arabian camel, or dromedary, has but one hunch on the middle of its back. Its hair, which is soft, woolly, and unequal, is longer on the nape of the neck, throat, and haunch than any other parts of the body; it is of a pale reddish fawn colour. It is nearly eight feet long. Its height, at the shoulder, is seven feet.

This species has been domesticated from the earliest ages of the world. By its use, the natives situated on the opposite extremes of the great Arabian Desert, carry on commercial intercourse, which could not be accom-

plished by any other means. Without the aid of the camel, mankind must have contented themselves with the produce of the individual productive spots of that vast country, in which their lot was cast. This is not merely applicable to Arabia, but to a great part of Asia. To this animal, so wisely formed by Providence, must be ascribed civiliziation in eastern countries. Egypt, Greece, and Hindostan, would have been little known to each other, but for the camel; and, in all probability, might have been to the present day in a state of barbarism and dark ignorance. In a country where vast arid regions intervene between districts suited for cultivation, no other animal but the camel could have served as the communicating medium. Its great strength and astonishing powers of abstinence, both from food and drink, render it truly invaluable in these inhospitable countries. Denon tells us, that in crossing the Desert, a single feed of beans is all their food for a day. Their usual meal is a few dates, or some small balls of barleymeal, or occasionally the dry and thorny plants they meet with at remote intervals, during their progress across the Desert. With these scanty meals, the contented creature will lie down to rest amid the scorching sands, without exhibiting either exhaustion, or a desire for better fare. Well may the Arab call the camel "the ship of the Desert!"

Nature has wisely provided the camel with several callosities, upon which the weight of his body is rested, under various movements. These may be considered as cushions, to prevent either pain or injury to the animal, when rising or kneeling. He has a large one on the breast, two on each of the fore legs, and one on each of the hind legs. When he sleeps, his knees are always bent under his body, and his breast leans upon the ground. These callosities enable the creature to receive its burden,

by kneeling, and prevent the skin from being broken, which would invariably be the case without them, either when it lies down or rises, with a weight of from ten to twelve hundred pounds on its back. By this useful contrivance, man is the more easily enabled to load the camel; as, otherwise, his great height would not only render it a difficult task, but also a slow one. These callosities consist of a soft fatty matter, which is gradually absorbed into the system, and becomes considerably diminished during a journey, and the consequent limited meals it is subjected to,—thus assisting in sustaining vigour, and in nourishing the creature. When pasturage and other food are abundantly supplied, these callosities are quickly increased to their wonted size,—thus proving it to be one of those wise provisions of creative power, for the support of the animal, in the long journeys across those arid deserts for which he was destined.

Another wonderful circumstance connected with the physical history of the camel, is his power of taking as much water at a draught, as will supply him for three or four days. When he has an opportunity, he usually drinks from sixty to a hundred pounds weight at a time. Instances have been known, where camels have endured thirst for eight or ten days.

Cuvier is of opinion, that the stomach of the camel is so constructed, that it not only retains the water which it drinks, but is also capable of secreting a fluid, which answers the same end. He formed this opinion, from observing a llama reject water for grass, although it had not drank for some days. Sir Everard Home, who carefully examined the stomach of the camel, gives the following distinct account of it:—

"The camel's stomach, anteriorly, forms one large bag; but, when laid open, this is found to be divided into two

compartments, on its posterior part, by a strong ridge, which passes down from the right of the orifice of the œsophagus, in a longitudinal direction. This ridge forms one side of a groove, that leads to the orifice of the second cavity, and is continued on beyond that part, becoming one boundary to the cellular structure met with in that situation. From this ridge, eight strong muscular bands go off at right angles, and afterwards form curved lines, till they are insensibly lost in the coats of the stomach. These are at equal distances from each other; and, being intersected in a regular way by transverse muscular septa, form the cells.

" This cellular secreture is in the left compartment of the first cavity; and there is another of a more superficial kind on the right, placed in exactly the opposite direction made up of twenty-one rows of smaller cells, but entirely unconnected with the great ridge.

" On the left side of the termination of the œsophagus, a broad muscular band has its origin from the coats of the first cavity, and passses down in the form of a fold, parallel to the great ridge, till it enters the orifice of the second, where it takes another direction. It is continued along the upper edge of the cavity, and terminates within the orifice of a small bag, which may be termed the third cavity.

" This band on one side, and the great ridge on the other, form a canal, which leads from the œsophagus down to the cellular structure in the lower part of the first cavity.

" The orifice of the second cavity, when this muscle is not in action, is nearly shut; it is at right angles to the side of the first. The second cavity forms a pendulous bag, in which there are twelve rows of cells, formed by as many strong muscular bands, passing in a transverse

direction, and intersected by weaker muscular bands, so as to form the orifices of the cells. Above these cells, between them and the muscle which passes along the upper part of the cavity to the termination, is the third."

From this account, it is evident, that the second cavity neither receives the solid food in the first instance, as in the bullock, nor does the food afterwards pass into the cavity, or cellular structure.

The food passes into the first compartment of the first cavity, and that portion of it which lies in the recess, immediately below the entrance of the œsophagus, under which the cells are situated, is kept moist, and is readily returned into the mouth, along the groove formed for that purpose, by the action of the strong muscle which surrounds this part of the stomach, so that the cellular portion of the first cavity in the camel performs the same office as the second in the ruminants with horns.

While the camel is drinking, the action of the muscular band opens the orifice of the second cavity, at the same time that it directs the water into it; and, when the cells of that cavity are full, the next runs off into the cellular structure of the first cavity, immediately below, and afterwards into the general cavity. It would appear that camels, when accustomed to go journeys, in which they are kept for an unusual number of days without water, acquire the power of dilating the cells, so as to make them contain a more than ordinary quantity, as a supply for their journey; at least, such is the account given by those who have been in Egypt.

When the cud has been chewed, it has to pass along the upper part of the second cavity, before it can reach the third. How this is effected, without its falling into the cellular portion, could not, from any inspection of

dried specimens, be ascertained; but, when the recent stomach is accurately examined, the mode in which this is managed becomes very obvious.

At the time that the cud is to pass from the mouth, the muscular band contracts with so much force, that it not only opens the orifice of the second cavity, but, acting on the mouth of the third, brings it forward into the second, by which means the muscular ridges that separate the rows of cells are brought close together, so as to exclude these cavities from the canal through which the cud passes.

The mercantile traffic across the desert is carried on by merchants who assemble in large bodies. These are termed caravans, and are performed by camels of the largest kind, and of heavy make; they go at a slow pace, seldom exceeding ten or twelve leagues a-day. Every night they are unloaded, and, if pasture happens to be at the resting place, they are allowed to range at liberty. Of the swifter kinds, Mr. Jackson, in his *Account of the Empire of Morocco,* gives an interesting account, although it may be a little exaggerated. "Nature," says he, "ever provident, and seeing the difficulty of communication from the immense tracts of desert, country in Sahara, has afforded the Saharawans a means, upon any emergency, of crossing the Great African Desert in a few days. Mounted upon the heirie, (desert camel, which is in figure similar to the camel of burden, but more elegantly formed,) the Arab, with his loins, breast, and ears bound round, to prevent the percussion of air, proceeding from a quick motion, rapidly traverses, upon the back of this abstemious animal, the scorching desert, the fiery atmosphere of which parches and impedes respiration, so as almost to produce suffocation. The motion of the heirie is violent, and can be endured

only by those patient, temperate, and hardy Arabs, who are accustomed to it. The most inferior kind of heirie are called Talatayee, a term expressive of their going the distance of three days' journey in one; the next kind is called Sebayee, a term appropriated to that which goes seven days' journey in one; and this is the general character. There is also one called Tasayee, or, the heirie of nine days: these are extremely rare."

The swiftness of this useful animal is thus described by the Arabs, in their figurative manner: "When thou shalt meet a heirie, and say to the rider, 'Salem aliek,'* ere he shall have answered thee, 'Aliek salem,'† he will be afar off, and nearly out of sight; for his swiftness is like the wind."

The camel has the faculty of scenting water at a great distance, by which means the caravan is often saved from destruction; as the animal, when his instinct intimates its vicinity, invariably bends his course directly towards it, which the drivers soon understand, from the determination they display to turn aside from the direction they are pursuing. In seasons when the wells are mostly dried up, the camels often die in their journeys. When they fall, the Arabs open their stomachs, and drink the water contained in them.

The only place in Europe where camels are bred, and used to any extent as beasts of burden, is at San Rossora. They are the property of the goverment of Tuscany. It is not distinctly known how long it is since this stud was established, but it is supposed to have existed since before the middle of the sixteenth century. They are much inferior in size to those of Arabia. The female camel

* The common salutation, "Peace be between us!"

† The answer, "there is peace between us."

goes with young between eleven and twelve months; and no instance has occurred at San Rossora where they have produced more than one at a birth. It has been attempted, but without success, to introduce camels into the West India Islands.

Camels are intelligent animals, and are very sensible of bad usage, or of being loaded beyond what they are able to carry with ease. They are said to retain a long recollection of an injury, and to avail themselves of the first favourable opportunity to be revenged. And when they have retaliated the injury, they no longer bear ill will, but afterwards become reconciled.



## GENUS AUCHENIA.—ILLIGER.

*Generic character.* The incisory teeth are $\frac{2}{6}$; the canines are $\frac{1\,1}{0\,0}$; the false grinders are $\frac{1\,1}{0\,0}$; the grinders are $\frac{5\,5}{5\,5}$; total 32. The structure of the teeth resembles those of the camels; the nose is slightly turned; without any sinus at the back of the head; the eyes are large; the muzzle is cleft; the neck is slender and vertical; the ears are long, pointed, and moveable; the feet have two toes, which are protected by small nails; sole callous; with callosities on the breast and knees; the tail is short; and they have two teats



THE LLAMA.

AUCHENIA GLAMA.—Desmarest.

There are two varieties of this animal—namely, the brown and the white.

The brown llama, which is the most common variety, has "the head, neck, and legs covered with much shorter hair than the rest of the body; a thin short mane extends along the middle of the neck; the back and sides are thickly clothed with fine long woolly hairs, becoming smooth, silky, and even shining, towards the tips; the general colour is of a bright brown; its under parts, and inside of the limbs, are white; and its head and ears are of a dusky gray; its tail is rather short, raised a little from the body, curved downwards, and covered above with long woolly hairs; the legs are moderately thick; the upper lip very prominent, and deeply divided; the neck is longer than the fore legs, and consequently bearing a very unusual proportion to the height of the animal. It is remarkably distinguished by its activity and upright bearing, and by the spirited expression of its physiognomy, which is not unmixed with an air of spiteful malice. In temper, it is far from docile; it readily accepts of bread or biscuits from the hands of the visitors,

but is equally ready to take offence at any supposed injury or insult, and to revenge itself by discharging its saliva upon the offending party. This is the usual expedient to which these animals have recourse when teased or irritated, and it is certainly by no means an agreeable salute, although the mucus thus discharged has none of those corrosive properties which Frézier and other writers have ascribed to it." *

The llama is nearly four feet in height at the shoulder, and somewhat more than five feet to the top of the head.

The white llama differs from the brown one in being considerably larger in size; it is covered with longer and coarser wool, and entirely white. It differs remarkably in the form of the forehead, which, in it, is perfectly flat, while in other animals it rises in a strong curve. This character, it is probable, affords a permanent ground of distinction.

These animals are better formed than any of the camels. Their legs are more delicate, and more regularly proportioned to the size of their bodies. Their eyes are large, prominent, and brilliant, and the whole expression of their physiognomy conveys a degree of intelligence and vivacity for which we should look in vain in the heavy and stupid expression of the camels of Arabia or Bactria.

In a wild state, the llamas inhabit the mighty mountain chain of the Andes, but abound principally in Peru and Chili. In Paraguay and Colombia they are very rare, and are seldom or never to be met with on the eastern limits of that vast chain. They are gregarious, associating in herds of several hundred individuals. Their food consists of a particular kind of grass, which

* *Gardens and Menagerie of the Zoological Society*, vol. i. p. 280.

abounds on the mountain sides where they inhabit, called by the natives Ycho.

When the llama can procure green herbage, it is never known to drink, from which we may infer that they have the power of secreting from their food sufficient liquid for preventing thirst.

In Chili the llama is hunted by the natives with dogs, which, however, are not able to run down an old one. The adult animals run with such swiftness, that a good horse is unable to keep pace with them.

On the first arrival of the Spaniards, llamas were used as beasts of burden; indeed, they were the only animals which the natives had for conveying merchandise from one part to another, of which a hundred weight is a sufficient load for an ordinary sized one, and with which they can travel only about fifteen miles a-day. If the driver has recourse to blows, to make them quicken their pace, they lie down, and refuse to proceed. They are now only used in the high mountain districts, as horses are so numerous that they are obtained any where in South America at very low prices. The flesh of the llama was eaten by the Indians; and they weave their wool into a kind of cloth. After the conquest of the country by the Spaniards, public shambles were established in all parts of Peru for the sale of their flesh, which Augustin de Zarate says, was as good as that of a fat sheep of Castile. It is still eaten both by the settlers and Indians, and the latter consider it a great delicacy.



## Genus MOCHUS.—Linnæus.

*Generic character.* The incisory are $\frac{0}{8}$; the canine teeth $\frac{1\ 1}{0\ 0}$; the grinders are $\frac{6\ 6}{6\ 6}$; total 34; the canine teeth

are wanting in the females; in the males, the canines are large; the ears are long and pointed; the body is slender; the feet cleft, with hoofs; the tail is very short; and with two inguinal teats.

### THE THIBETIAN MUSK.

MOCHUS MOCHIFERUS.—Linnæus.

This animal is destitute of horns; the upper jaw is considerably longer than the lower one, and is furnished with a curved tusk of about two inches in length, exposed to view when the mouth is closed. These tusks are of a different form from those of any other animal, being edged on their inner or lower side, so as somewhat to resemble a pair of small crooked knives; the ears are long and narrow, of a pale yellow in the inside, and deep brown on the outside; the chin is yellowish; the general colour of the body is of a deep iron gray; the tips of the hairs being ferruginous, and the remainder blackish, growing much paler towards the roots. The general appearance of this animal resembles the roe-buck; it measures about three feet three inches from the top of the haunches to the bottom of the hind feet.

The Thibetian musk is hunted on account of the well known perfume called musk, which is secreted in an oval receptacle, about the size of a small egg, hanging from the middle of the abdomen, and peculiar to the male. This little bag is found constantly filled with a soft, unctuous, brownish substance, of a most powerful and penetrating smell. As soon as the animal is killed, the hunters cut off the musk bag, and tie it up ready for sale; the quantity in each bag is about two drachms.

The species must be very abundant in its native country, for Tavernier tells us, that in one journey he collect-

ed the astonishing number of seven thousand six hundred and seventy three musk bags.

### THE PIGMY MUSK.

MOCHUS PYGMÆUS.

The pigmy musk is the smallest of all ruminating animals; most elegantly formed, and measuring little more than nine inches from the nose to the tail. Its colour is bright bay, white beneath, and on the inside of the thighs. Its legs do not exceed the diameter of a swan quill. It is a native of many parts of the East Indies and the Indian islands, and is said to be common in Java, where the natives catch great numbers of them in snares, and carry them to the markets in cages for sale. Mr. Pennant says they may be purchased at so low a rate as twopence halfpenny a-piece.



## GENUS CERVUS.—LINNÆUS.

*Generic character.* The incisory teeth are $\frac{0}{8}$; there are no canine teeth in some species, and in others they are $\frac{1\ 1}{0\ 0}$; the grinders are $\frac{6\ 6}{6\ 6}$; total 32 or 34; the canines when they exist, are incurved; the head is long, terminated by a muzzle; the eyes are large, and the pupils are elongated transversly; most of the species have a lachrymal sinus; the ears are large and pointed; the tongue is soft; the horns are solid, deciduous, and either palmated, branched, or simple, in the males; the females, with one exception, are hornless; all the species have succatorial hoofs, with four inguinal teats.



THE ELK.

Cervus Alces.—Linnæus.

The Swedish elk is the largest of all European quadrupeds, being upwards of six feet in height at the shoulders. The head of this immense animal measures usually, from the nose to the line between the ears, two feet two inches; the distance between the eyes, about eight inches; the length of the ear, nine inches. The horns are palmated, of immense size, the lower branches, or snags, of which are generally bifurcated, and are from twelve to thirteen inches in length. The horns are shed annually, and have been known to weigh about sixty pounds. The legs are long, and the body round, with a short neck, from which cause they feed principally on the branches of trees. The hair of the male is black at the tips, ash coloured in the middle, and perfectly white at the roots. The female is of a sandy brown colour.

This animal is also a native of Canada, and the northern parts of America, where it browses in the neighbourhood of the great lakes. The movements of the elk are rather heavy, from the great height of its shoulder; it does not gallop, like others of the deer kind, but goes along at a shuffling kind of amble; and its hoofs, striking against each other, make a strange crackling sound, which

is heard at a considerable distance. Its speed, however, is great.

During the winter, the elk lives chiefly in wooded hills; in summer, it frequents the swampy sides of rivers and lakes, often going deep into the water, to escape flies and gnats.

The female brings forth one young, about the middle of May, in the first year, but afterwards, always two.

The elk is hunted on account of its flesh, which is of a superior flavour; and they have been known to weigh twelve hundred pounds. In former times this animal was used for drawing sledges, in Sweden, and other northern countries of Europe. They are easily domesticated, and will come at the call of their master, follow him to a distance from home, and return with him quietly. Although the elk is of a gentle disposition, instances have occurred of their turning upon their pursuers. A wounded one was known to turn on the hunter, in the woods of Canada; the man was found next day, pounded to a jelly, his bones being broken in pieces; and the deer, having exhausted its fury, was found dead by his side.

### *Tame Elk.*

M. d'Obsonville, while in Sumatra, procured an elk, when only ten or twelve days old, which he kept till upwards of two years of age, without confining or restraining it in any way. He sometimes made it draw and carry burdens. It always came at his call, and exhibited no signs of impatience, except when taken away from him, as it was much attached to its master. When he left the island, he presented it to his friend, Mr. Law, who was then governor-general of the island. It was sent to the country seat of that gentleman, and kept on

a chain, and away from company, by which means, it becames quite furious, and could not be approached without danger. Even its keeper, who fed it, durst not come near it. "After some months," says D'Obsonville, "I returned. It knew me at a great distance; and used all its efforts to get at me. I ran to meet it; and I shall never forget the impression which the transport and caresses, lavished upon me by this attached creature, produced."



THE REIN DEER.

CERVUS TARANDUS.—Linnæus.

The adult male of this species, in a wild state, is the size of a stag, or about four and a half to five feet high; but the female is fully less than the hind. It is the only species of the genus which has been completely domesticated, and that is steadily employed in the service of man. It is found in most of the northern countries of Europe, Asia and America. The colour is of a dusky brown above, and white beneath. The space between the eyes is black. The hair on the lower part of the neck is much longer than on any other place. The

hoofs are large, long, and black. The female of this species has horns, as well as the male; but those of the latter are much the largest. These are long, slender, branched, and upright, furnished with brown antlers with widely expanded and palmated tips, directed forward.

The figure of the rein deer is rather heavy, when compared with other species. The neck is short, and the head carried straight forward, giving the animal a dull appearance. The females produce, in May, two fawns at a birth.

The rein deers swim with great facility, and are so buoyant, as to keep half of the back above water; and the great size of their feet enables them to make rapid way a cross even the strongest currents. They defend themselves, with great courage, and kick furiously with their hind feet, when attacked by the wolf, seldom failing to repel a single one.

To the poor Laplanders, the rein deer is a substitute for the horse and cow, goat and sheep. They make cheese of its milk; feed on its flesh; and clothe themselves with its skin. They make its tendons into bowstrings; and, when split, use them as a coarse kind of thread. They boil their horns into glue, and make their bones into spoons; and, in winter, the rein deer supplies the place of a horse, by drawing their sledges; and that even across the snows, in which the breadth of their hoofs prevents them from sinking. They run at great speed, performing immense journeys. With two of them yoked in a sledge, it is said the Laplander will travel upwards of a hundred English miles in a day; or, according to their own way of reckoning, they can thrice change the horizon in twenty-four hours, —that is, they can three times pass the most remote object which presents itself, at their setting out, in these dreary wastes.

The sledge is somewhat the shape of a boat, having a back board, for the Laplander to lean against. Its bottom is convex, and so constructed, that it requires considerable experience to enable the traveller to maintain his equilibrium. To this the Laplander ties himself; and manages the animals with great dexterity, by means of a stick and the reins. Before he enters the sledge, he puts on his gloves, rolls the reins round his right thumb, and then seats himself, giving the reins a violent shake, when the animals bound off with astonishing fleetness. Besides the reins, in directing the course of the deer, he uses his voice. The Laplander lightens the tedium of his journey, by chanting some wild love song. These often possess much beauty, and breathe the native wildness of that rude uncivilized people. Several of these have been translated into English, and have attracted universal admiration, for their simplicity. The following is a specimen of one of these, from Consett's *Tour in Lapland.* It affords a happy illustration of that consolation which contentment brings, in any condition of life.

The snows are dissolving on Tornao's rude side,
And the ice of Lulhea flows down the dark tide:
Thy dark stream, oh, Lulhea, flows freely away!
And the snow-drop unfolds her pale beauties to-day.
Far off the keen terrors of winter retire,
And the North's dancing streamers relinquish their fire,
The sun's genial beams swell the bud on the tree,
And Enna chants forth her wild warblings with glee.
The rein deer, unharness'd, in freedom shall play,
And safely o'er Odom's steep precipice stray;
The wolf to the forest's recesses shall fly,
And howl to the moon as she glides through the sky.
Then haste, my fair Luah, oh! haste to the grove,
And pass the sweet season in rapture and love;

In youth let our bosoms in ecstasy glow,
For the winter of life ne'er a transport can know.

It may seem difficult to account for the mode by which these people direct their course to their destination, over a country which presents a uniform surface of snow and ice,—and this, even during the night. It is to the rein deer they trust their lives; and accidents are said to be of rare occurrence.

The rein deer feeds on the *Lichen rangiferinus*, and the *Lichen Islandicus*, the buds of coniferous evergreens, and other arctic plants. During the summer, this animal migrates to the woods and mountains, to avoid the persecution of various insects which are a pest to them, especially the *Œstrus Tarandi*, the very hum of one of which will put a whole herd of deer to flight. This insect penetrates the skin of the deer, and deposits its eggs under it. This produces a disagreeble and painful inflammation, the larvæ feeding on the juices which are secreted, until they assume the winged state.

It is singular, that this animal inhabits a very limited physical range, and cannot exist beyond these precincts. Cuvier, after a laborious investigation of these limits, has proved, that it never extended farther north than the northern boundary of Poland, nor farther south than the Baltic. An attempt to naturalize this species in Great Britain was made in 1823, by Mr. Bullock, but failed. In the autumn of that year, a Norwegian, with five deer, arrived in England, which were conveyed to the seat of a gentleman in Worcestershire. There they remained during the winter; and were fed with the *Lichen rangiferinus*. They continued healthy until the following April, when they were removed to Clee Hill on the highest part of which that lichen grows in

great abundance. Soon after this, one of them died with maggots in the head, a disease which is not uncommon in Lapland, when the horns are in a tender state. Two others also died, having gradually declined. The two survivors appeared to thrive until autumn, when they were both suddenly seized with diarrhœa, of which they died. The same attempt was made in Ireland; but with no better success. The rein deer is found wild in the Uralian mountains, and in Siberia.



THE STAG.

Cervus Elaphus.—Linnæus.

The stag is the most beautiful of the deer kind, if we take into consideration the elegance of his form, the lightness of his motions, the flexibility of his limbs, and his bold branching horns, which have three antlers, all curving upwards, the summit forming a crown of snags, from a common centre. His eyes are large, bold, and expressive, and are furnished with lachrymal sinuses; the fur is reddish brown in summer, and brownish gray in winter; the hind quarters are of a pale buff.

At one period the horns of stags grew into a much

greater number of ramifications than at the present day; some have supposed this to have arisen from the greater profusion of food, and from the animal having more repose, before population became so dense. In some individuals these multiplied to an extraordinary extent. There is one in the museum of Hesse Cassel, with twenty-eight antlers. Baron Cuvier mentions one of sixty-six, or thirty-three on each horn. This stag was killed by the first king of Prussia. The stag begins to shed his horns in the latter end of February, or beginning of March, when he retires to thickets, and remains till the horns are completely restored. Soon after the old horns have fallen off, a soft tumour begins to appear, which is quickly covered with a velvety-like substance. From this every day little buds shoot forth, like the grafts of a tree, and, rising by degrees, spring out the antlers on each side; the skin continues to cover it for some time, and is furnished with blood-vessels, which supply the growing horn with nourishment, and occasion the furrows observable in them when the covering is stript off. When the horns are full grown, they acquire strength and solidity, and the velvet covering, or skin, with its blood-vessels, dries up, and begins to fall off; which is facilitated by the animal rubbing them against trees. At this time they again enter the open parts of the forest, to join the female. The hind is gravid eight months and some days, and produces a single fawn, in the end of May or beginning of June. The fawn continues with the dam during the summer, but in the winter all the animals of both sexes, and their young, congregate in large herds, and extend as the severity of the winter increases, remaining together till the males disperse to shed their horns.

The full grown stag is from three feet six inches to

four feet high at the shoulders, and the horns rise nearly to three feet above the head. He is said to be very long lived; but late observation limits the period of his existence to twenty years.

The stag inhabits every part of Europe, excepting Lapland. They are to be found in Gloucestershire, and the northwest of Devonshire; a few are still reared on some of the islands of Lochlomond, in Scotland; and they are to be met with in a wild state in some of the mountainous districts in the southwest of Ireland.

Stag hunting has been a favourite pastime from very remote periods. He is a strong animal, and capable of running a long time, and of making a defence when overtaken. In Britain large tracts of land were anciently set apart for making forests to shelter stags. Villages and sacred edifices were destroyed, and converted into a wide waste. In the reigns of William Rufus and Henry I. it was considered more criminal to kill a beast of chase than a human being. But these times have passed away; and commerce, useful arts, and the wide improvements of agriculture, have in their turn arisen, to replace tyranny and oppression.

### *Determined Combatants.*

At Veuve, a village situated on the river Ouche, which falls into the Paone, about twelve miles below Dijon, in the province of Cote d'Or, France, it was customary, from the beginning of April till the end of June, to drive the cows to graze upon the neighbouring hills, situated on the opposite side of the river, through which they wade without difficulty. In the year 1757, at the hour when the herds were driven to pasture, a stag used daily to come down from the hills to the banks of the river and meet them. The bull which accompanied these cattle,

proud of his imagined superiority and strength, and jealous of his rights, attempted to drive away this intruder, by butting him with his horns. The stag willingly accepted the challenge, and attacked the bull with such impetuosity, that he was obliged to yield to him the command of the herd. This combat was daily renewed, and the two rivals challenged each other to the onset, while still at a great distance from each other, and the hills actually resounded with their bellowing. But such was the vigour of the stag's attacks, and the rapidity of his movements, that he always came off victorious, and led the cows every day triumphantly to the hills, availing himself of the rights of a conqueror.



THE FALLOW DEER.

Cervus Dama.—Linnæus.

The fallow deer is a native of Western Asia; but has long been domesticated in Great Britain, forming a beautiful ornament to parks and pleasure grounds.

The principal difference between this animal and the stag seems to be in the size and form of their horns, and in the skin being marked with numerous, somewhat triangular spots. The horns of the fallow deer are much less than those of the stag, and are broad and palmated

at their ends, being better garnished with antlers. The fur is also of a brighter hue.

The fallow deer is much less furious than the stag during the rutting season. They never leave their pasture; but generally fight till one buck becomes master of the field.

This species associate in herds; and these sometimes divide into two parties, and maintain obstinate battles for some favourite part of the park. Each party has its leader, which is always the oldest and strongest of the herd. The female goes with young eight months, generally producing one, sometimes two, and rarely three, at a birth.



## GENUS CAMELOPARDALIS.—LINNÆUS.

*Generic character.* The incisory teeth are $\frac{0}{8}$; without canine teeth; the grinders are $\frac{6\ 6}{6\ 6}$; total 32. The head is long, with a conical bony tubercle on the forehead, and two osseous processes, covered with a hairy skin, terminated with a tuft of bristles; the upper lip entire; without lachrymary sinuses; the eyes are large; the ears are long and pointed; the tongue rough; the neck very long; withers much elevated; hind quarters low and oblique; the legs are slender; hoofs divided; with a callosity on the breast; the female with four teats.

### THE GIRAFFE.

CAMELOPARDALIS GIRAFFA.—Gmelin.

The existence of this wonderful animal was long doubted by modern naturalists; and the descriptions

which we had of it were far from being satisfactory. Even in the time of Buffon, the accounts of it were clothed in fable.* It fell to the lot of Le Vaillant to give the first authentic notice of this, the tallest of all known quadrupeds.

The height of the giraffe is about eighteen feet from the crown of the head to the ground, and measures only nine feet at the rump; from the extremity of the tail to the tip of the nose, when the head is stretched forward, it is twenty-two feet; the fore and hind legs are of an equal height, but the shoulders rise at an angle of about forty-five degrees; the neck is slender and elegant, and about seven feet in length, adorned on the upper side with a short mane; on the crown of the head it is furnished with two perpendicular horns of about six inches in length, covered with hair, and round at their tips, where they are encompassed with a circle of short black hairs, which Le Vaillant says the male loses at the age of three years, while in the female it remains much longer. On the middle of the forehead there is a protuberance of about two inches high; this is not a fleshy excrescence, but an enlargement of the bony substance. The eyes are large, brilliant, and full, and are so placed in the head, that the animal can see on every side. The tongue is extensile, smooth, and slightly adhesive, covered with spotted papillæ, which Mr. Davis says can be raised or depressed at pleasure, as at times the tongue is perfectly smooth and soft, and at others exceedingly rough. The application of this organ to the leaves of plants, before they are carried into the mouth, enables the animal to reject those which are noxious. As the tongue is much exposed to the sun's rays when feeding, it is furnished with a black *rete mucosum*, to prevent its being blistered. The tongue can be so tapered, as to enter the ring of a

very small key; its taste is exceedingly acute. Sir Everard Home, in his interesting memoir on the tongue of the giraffe, says, "The tongue is to be considered as a congeries of muscles acting upon one another, and, in this respect, differing from muscles applied to bones and other solid substances; but that of the giraffe has so many peculiarities, as, in my opinion, give it a claim to be considered separately from the tongues of other animals, and viewed as a construction, in which a greater variety of actions are displayed than are to be met with in others. It not only performs the office of the organ of taste, but has, besides, nearly all the powers of the proboscis of the elephant, although not possessed of the same strength. They differ, indeed, in one being an elongation of the organ of smell, the other of the organ of taste. The proboscis is restrained from elongation in extént beyond one inch, by means of the cartilaginous tubes it contains; but the giraffe's tongue, which, when extended after death, is seventeen inches long, can, in the living body, be so diminished in size as to be enclosed within the animals mouth." Its ears are long, they are constantly bent forward, and well formed to receive sounds. The hide, which is, at first, of a light red, becomes of a deeper colour as the animal advances in age, and is, at length, of a yellow brown in the female, and approaching to black in the male. The whole body, neck, and fore arms, are covered with large spots of a deep chocolate brown; those on the female are somewhat lighter. The female goes with young twelve months, and produces but one at a birth.

The giraffe feeds principally, in its native wilds, on a tree called the *acacia xariffiana.* On its habits and manner of feeding, there is still great diversity of opinion. Mr. Richard Davis, animal painter to the King,

who studied the habits of the young one which arrived in England in August, 1827, says, "In its natural habits, I cannot conclude that the giraffe is a timid animal, for, when led out by its keepers, the objects which caught its attention did not create the least alarm, but it evinced an ardent desire to approach whatever it saw; no animal was bold enough to come near it. Its docile, gentle disposition, leads it to be friendly, and even playful, with such as are confined with it; a noise will rouse its attention, but not excite its fear.

La Vaillant's enthusiastic description of his first seeing the skin of a giraffe in Africa, and the strong excitement it produced in him to see one of these wonderful animals alive, and the feelings which he experienced at the capture of one, beautifully illustrates the ardour of a keen naturalist.

"I was now struck with a sort of distinction which I perceived on one of the huts; it was entirely covered with the skin of a giraffe. I had never seen this quadruped, the tallest of all those upon the earth. I knew it only from false descriptions and designs, and thus I could scarcely recognize its robe. And yet this *was* the skin of the giraffe. I was in the country which this creature inhabits. I might probably see some living ones. I looked forward to the moment when I should be thus recompensed, at least in part, for all the sufferings and annoyances of my expedition."*

"One of the Namaquas, who were my guides, came in great haste to give me information, which he thought would be agreeable to me. He had seen the strong feeling of pleasure which I had evinced at the sight of the skin of the giraffe; and he had run to say, that he had

* Second Voyage en Afrique, tom. ii. p. 48, 4to, Paris.

just found in the neighbourhood one of these animals under a mimosa, the leaves of which he was browsing upon. In an instant, full of joy, I leapt upon my horse. I made Bernfry, [one of his men,] mount another; and, followed by my dogs, I flew towards the mimosa. The giraffe was no longer there. We saw her cross the plain towards the west; and we hastened to overtake her. She was proceeding at a smart trot; but not did appear to be at all hurried. We galloped after her, and occasionally fired our muskets; but she insensibly gained so much upon us, that, after having pursued her for three hours, we were forced to stop, because our horses were quite out of breath; and we entirely lost sight of her. The pursuit had led us far away from each other, and from the camp; and the giraffe having made many turns and doubles, I was unable to direct my course towards home. It was noon. I already began to feel hunger and thirst; and I found myself alone in a sterile and arid spot, exposed to a burning sun, without the least shelter from the heat, and destitute of food. The traveller, however, shot and cooked some birds of the partridge genus; and was fortunate to rejoin his companions in the evening. "The next morning, my whole caravan joined me again. I saw five other giraffes, to which I gave chase; but they employed so many stratagems to escape, that, after having pursued them the whole day, we entirely lost them as the night came on. I was in despair at this ill success. The next day, the 10th of November, was the happiest of my life. By sunrise, I was in pursuit of game, in the hope to obtain some provisions for my men. After several hours' fatigue, we descried, at the turn of a hill, seven giraffes, which my pack instantly pursued. Six of them went off together; but the seventh, cut off by my dogs, took another way. Bernfry was walking by the side of his horse;

but in the twinkling of an eye he was in the saddle, and pursued the six. For myself, I followed the single one at full speed; but in spite of the efforts of my horse, she got so much ahead of me, that, in turning a little hill, I lost sight of her altogether; and I gave up the pursuit. My dogs, however, were not so easily exhausted. They were soon so close upon her, that she was obliged to stop, to defend herself. From the place where I was, I heard them give tongue with all their might; and as their voices appeared all to come from the same spot, I conjectured that they had got the animal in a corner; and I again pushed forward. I had scarcely got round the hill, when I perceived her surrounded by the dogs, and endeavouring to drive them away by heavy kicks. In a moment I was on my feet; and a shot from my carbine brought her to the earth. Enchanted with my victory, I returned to call my people about me, that they might assist in skinning and cutting up the animal. Whilst I was looking for them, I saw Klaas Baster, [another of his men,] who kept making signals which I could not comprehend. At length, I went the way he pointed; and, to my surprise, saw a giraffe standing under a large ebony tree, assailed by my dogs. It was the animal I had shot, who had staggered to this place; and it fell dead at the moment I was about to take a second shot.

"Who could have believed, that a conquest like this would have excited me to a transport almost approaching to madness! Pains, fatigues, cruel privation, uncertainty as to the future, disgust sometimes as to the past, —all these recollections and feelings fled, at the sight of this new prey. I could not satisfy my desire to contemplate it. I measured its enormous height. I looked from the animal to the instrument which had destroyed it. I called and recalled my people about me. Although

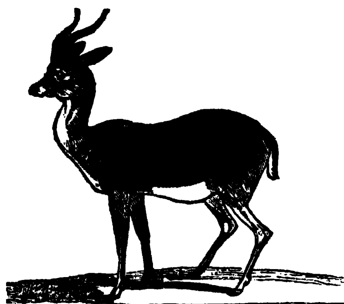
we had combated together the largest and the most dangerous animals, it was I alone who had killed the giraffe. I was now able to add to the riches of natural history. I was now able to destroy the romance which attached to this animal, and to establish a truth. My people congratulated me on my triumph. Bernfry alone was absent; but he came at last, walking at a slow pace, and holding his horse by the bridle. He had fallen from his seat, and injured his shoulder. I heard not what he said to me. I saw not that he wanted assistance; I spoke to him only of my victory. He showed me his shoulder; I showed him my giraffe. I was intoxicated, and I should not have thought even of my own wounds." *

The female giraffe, sent to England in 1827, a present from the Pasha of Egypt, to the King, was the first which ever reached the country. It was a young one, and measured only ten feet when it arrived, and grew upwards of three feet afterwards, before it died. Indeed, no other but these animals had reached Europe since the end of the fifteenth century. At that period, the Soldan of Egypt sent one to Lorenzo di Medici. It was kept at Florence, and allowed to range at liberty. It became very familiar with the inhabitants. We have no other accounts of any having been seen in Europe since the time of the Roman Empire, at which period they were exhibited at the games of the circus, and at principal processions. Gordian III. had ten alive at one time in Rome. The long period which had elapsed since they had been seen by Europeans induced a belief that their history was in a great measure fabulous. None have yet reached America alive.

* Second Voyage, tom. ii. p. 54.

## GENUS ANTELOPE.—CUVIER.

*Generic character.* The incisory teeth are $\frac{0}{8}$; there are no canine teeth; the grinders are $\frac{6\,6}{6\,6}$; total 32. In some species, with horns in both sexes; in others, in the males only; the bony core is solid, round, or compressed; variously inflated, generally with transverse annulations, and longitudinal striæ between them; sometimes bifurcated; in most species the muzzle is partly naked; generally with lachrymal sinuses; the eyes are large and dark; the ears generally long and pointed; the legs are slender, with two or four mammæ.



THE COMMON ANTELOPE.

ANTELOPE CERVICAPRA.—Pallas.

The common antelope is somewhat smaller than the fallow deer: it is of a reddish fawn colour on the back and upper part of the body and sides, and white below; the insides of the limbs, which are elegantly formed, are white; and, on the outsides, the hair is of a darker shade than on any other parts of the animal; the space occu-

pied by the orbits of the eyes is white; the horns are about sixteen inches long, surrounded with prominent rings almost to the tips; the horns of the antelope are remarkable for a beautiful double flection, which gives them the appearance of the lyre of the ancients; they are of a shining black; the females are destitute of horns.

The whole tribe of antelopes are elegant animals, inhabiting mountainous countries, ranging amid precipices and craggy cliffs, bounding from one to another with astonishing agility. Their food is similar to that of the goat.

The eyes of antelopes are considered perfection in the east, and are always referred to in their songs, where female beauty is depicted; and are thus beautifully alluded to by Byron in his *Hebrew Melodies:*—

> "The wild gazelle on Judah's hills
> Exulting yet may bound,
> And drink from all the living rills
> That gush on holy ground;
> Its airy steps and glorious eye
> May glance in tameless transport by."

The chase of the antelope is a favourite amusement with eastern nations: they run with great rapidity, and can only be overtaken by greyhounds.

## THE SPRINGBOK.

ANTELOPE EUCHORE.—*Forster.*

The horns are of a brownish black; the animal has a longitudinal fold of skin on the croup, with white hairs; the back and lower parts are of a fawn colour, white below, with a dark brown line on each flank. It is about four feet and a half long.

The springbok inhabits Southern Africa, where it collects in immense herds, and they migrate from their wild and unknown abodes to the more cultivated districts of the Bushman's territory, when the dry season sets in.

### THE WHITE ANTELOPE.

ANTILOPE LEUCORYX.—Desmarest.

This curious species is nearly milk white, with very long, straight, and tapering, slightly annulated horns; the ears are rather long; and triangular brown lines rise at the base of the horns, and meet on the forehead, between the eyes; from thence a narrow stripe runs for about two inches, and gradually widens to a large patch of the same colour along the middle of the nose; a streak of brown also rises above each eye, and terminates in a straight line with that on the nose; there are also fillets of the same colour which cross the top of the thigh; the nose is thick and broad, like that of a cow's; the body is rather heavy; and the limbs are strong.



## GENUS CAPRA.—Linnæus.

*Generic character.* The incisory teeth are $\frac{0}{8}$; destitute of canine teeth; the grinders are $\frac{6\,6}{6\,6}$; total 32. The horns are common to both sexes; they are directed upwards, and pointed backwards, more or less angular and nodose; they have no muzzle or lachrymary sinus, or inguinal pores; the ears are erect and pointed; the eyes are pale, and pupil elongated; they are bearded below the chin; the legs are strong; and the tail short; with two abdominal teats.



THE GOAT.

CAPRA ÆGAGRUS.—Desmarest.

The goat is a lively, playful animal, easily domesticated, and becomes much attached to those with whom it is acquainted. His actions, however, are extremely capricious.

The highest and steepest precipices are its most favourite haunts, the scanty vegetation of these elevated situations affording it sufficient nourishment. It is extremely active, bounding, without fear, from cliff to cliff, in perfect security. It is admirably adapted for such situations, being provided with hoofs well calculated for climbing: they are hollow underneath, with sharp edges. The figure of the goat adds a picturesque effect to mountain scenery, where it is apparently the only living creature in the wilderness, and may be seen scrambling from one precipice to another, relieved by the dark blue ether.

The goat generally produces two at a time, although it sometimes brings forth three, and very rarely four. In warm climates, it is said to be still more productive. In the mountainous districts of Europe, goats furnish the inhabitants with many of the necessaries of life; they make beds of their skins; they live upon their milk, which has a delightful odour, from the thyme and other plants on which they feed; part of it they convert into

butter, and sometimes into cheese; and the flesh of the kid, when young, is very delicate, and superior in flavour to lamb.

### *Singular Dexterity.*

"We met," says Dr. Clarke, "an Arab with a goat, which he led about the country to exhibit, in order to gain a livelihood for itself and its owner. He had taught this animal, while he accompanied its movements with a song, to mount upon little cylindrical blocks of wood, placed successively one above another, and in shape resembling the dice-box belonging to a backgammon table. In this manner the goat stood, first on the top of one cylinder, then on the top of two, and afterwards of three, four, five, and six, until it remained balanced upon the summit of them all, elevated several feet above the ground, and with its four feet collected upon a single point, without throwing down the disjointed fabric where it stood. The diameter of the upper cylinder, on which its four feet alternately remained until the Arab had ended his ditty, was only *two inches*, and the length of each six inches. The most curious part of the performance occurred afterwards; for the Arab, to convince us of the animal's attention to the turn of the air, interrupted the *Da Capo;* and as often as he did this, the goat tottered, appeared uneasy, and upon his becoming suddenly silent, in the middle of his song, it fell to the ground.



## Genus OVIS.—Linnæus.

*Generic character.* The incisory teeth are $\frac{0}{8}$; destitute of canine teeth; the grinders are $\frac{6\cdot6}{6\cdot6}$; total 32. The

horns are common to both sexes, but are sometimes wanting in the female; they are thick, angular, and wrinkled transversely, pale coloured, and turned laterally in a spiral form; the ears are small; the legs slender; the tail more or less short; with two abdominal teats; the hair is of two kinds, the one hard and close, the other woolly.

### THE MUSMON.

OVIS MUSMON.—Pliny.

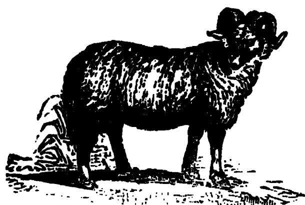
The musmon is about the size of a common ram, somewhat higher on the legs, and the horns curved back, forming little more than half a circle, with the points turned inwards; the colour of the hair is generally brown, or liver coloured gray, with some white upon the face and legs; it has a darker streak along the back, and on the flanks; it is very frequently black about the neck; and has a tuft of hair beneath the throat. The female is usually smaller than the male, and destitute of horns.

The form of these animals is strong and muscular; they run with great agility; and, when hunted, are seldom taken alive. They frequent the highest summits of the mountains, and tread the most precipitous cliffs with perfect security. The Tartars pursue them with horses and dogs. In this chase, they assemble in many hundreds, enclose a great circle of ground, and, narrowing the space, drive them towards the centre, where they are either caught or destroyed. The flesh of this animal is considered a very great delicacy.

The musmon inhabits the deserts of Tartary and Greece, and is said to be found also in Sardinia and Corsica.

Buffon, Desmarest, and other naturalists, consider this the progenitor of the domestic sheep; but, until more

satisfactory evidence is brought forward, I perfer retaining it as a distinct species. Those found in Kamschatka are so strong, that it takes several men to hold one. Their horns sometimes grow to a very large size.



THE DOMESTIC SHEEP.

Ovis Aries.—Linnæus.

From the length of time the sheep has been domesticated, and the numerous variety of forms it has assumed, it is now impossible to point out its origin. Climate, food, and the unwearied exertions of cultivators to improve the breed of an animal so valuable to man, have all tended to produce these varieties.

In the selection of its food, few animals display greater sagacity than the sheep, nor does any creature manifest greater dexterity and cunning in its attempts to elude the vigilance of the shepherd, in order to steal such delicacies as are agreeable to its palate.

Protected by a thick and warm fleece, sheep are capable of enduring greater severities of climate than most other animals. They are possessed of instinct, by which they can foresee an approaching storm, and seek refuge and shelter under some hill, or projecting cliff. Whole flocks have frequently been buried for many days under a covering of snow, in which situation they keep huddled together as compactly as possible, and have been

taken from these situations without having suffered the slightest injury. The poet of nature, Thomson, thus beautifully alludes to the sheep under such circumstances:

> Oft the whirlwind's wing
> Sweeps up the burden of whole wintry plains
> At one wide waft; and o'er the hapless flocks,
> Hid in the hollow of two neighbouring hills,
> The billowy tempest whelms.

Sheep have been known, before the approach of a tempest, to take shelter in a cottage along with their shepherd.

The ewe produces one or two lambs at a birth, and sometimes, though rarely, three or four. She is gravid five months, and brings forth in the spring.

In March, 1825, Mr. John Clark, farmer at Risk in the parish of Lochwinnoch, had five ewes and a single ram, of the Leicester breed, which produced fourteen lambs, thirteen of which were ewes. This farm is situated at about one hundred and twenty feet above the level of the sea, which height, in all probability, is favourable to that particular breed. Mr. James Young, Calderside, in the parish of Blantyre, in 1826, had a ewe, five years old, which had produced fifteen lambs. In 1822, when she was a year old, she had two lambs; in 1823, three lambs; in 1824, two lambs; in 1825, four lambs; and in 1826, also four lambs; and always kept in excellent condition. This spring, (April, 1831,) a ewe, supposed to be of the Leicester breed, belonging to John Paterson, an industrious labourer in the parish of Johnston, was found one morning with three lambs at her feet. The same ewe has produced, and nursed to maturity within the last four years, no less than thirteen lambs.

*Instinct of a Sheep.*

The following anecdote is really worthy of being told by the Ettrick Shepherd, or the Poet of the Lakes, and we therefore regret that the incident did not happen in the vicinity of "still St Mary's Loch," or on the pastoral braes of Westmoreland. A gentleman of Inverness, on a journey in the Highlands, while passing through a lonely and unfrequented district, observed a sheep hurrying towards the road before him, as if to interrupt his progress, and at the same time bleating most piteously. On approaching nearer, the animal redoubled its cries, and, looking significantly in the face of the traveller, seemed to implore some favour or assistance at his hands. Touched with a sight so unusual, the gentleman alighted, and leaving his gig, followed the sheep to a field in the direction whence it came. There, in a solitary cairn, at a considerable distance from the road, the sheep halted, and the traveller found a lamb completely wedged in betwixt two large stones of the cairn, and struggling feebly, with its legs uppermost. The gentleman instantly extricated the little innocent sufferer, and placed it safely on the neighbouring green sward, while its overjoyed mother poured forth her thanks in a long continued and grateful, if not a musical strain.

## THE TARTARIAN SHEEP.

### Ovis Aries, Variety.

This is merely a variety of the common sheep, resulting from domestication. They are rather larger than those of the English breed. The colour of the male is roan, or light brown, mixed with white; the female is a mixture of black and white; their ears are rather long

and pendulous; and instead of a tail, they have a large protuberance of fat behind.

### THE WALLACHIAN SHEEP.

OVIS STREPSICEROS.—*Linnæus.*

This is another variety of the common sheep, with spiral horns standing upright, in the form of screws. The fleece is long and shaggy, and its size is about that of the domestic sheep of this country. It is found in the island of Crete, and many of the islands of the Archipelago. This is said to be the strepsiceros of the ancients.

The four horned sheep is another curious variety; the horns vary from three to four, and have a striking resemblance to those of the goat. It is common in the north of Europe, and is said to be originally from Ireland.



## GENUS OVIBOS.—BLAINVILLE.

*Generic character.* The incisory teeth are $\frac{0}{8}$; destitute of canine teeth; the grinders are $\frac{6\,6}{6\,6}$; total 32. The body is thick and heavy; the legs are short; the feet hairy under the frog; the horns unite on the forehead; they are flat, broad, and lateral; the ears are short, placed far back; the eyes small; there is no furrow on the upper lip; and the tail is short.

## THE MUSK BULL.

OVIBOS MOSCHATUS.—Desmarest.

This animal is about the size of a small cow; the horns are placed laterally, and pointing upwards at their tips; the hair is long and shaggy, of a brownish black, and hanging down to the ground; the frogs of the hoofs are soft, transversely ribbed, and partially covered with hair; the external hoof large and round; the internal one pointed and crooked. It smells powerfully of musk.

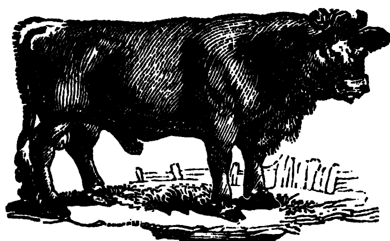
These cattle inhabit the northwest of Churchill River in Hudson's Bay; they are gregarious, and live in herds of from thirty to forty. There are few males in the herd in proportion to the females, caused, it is supposed, by the conflicts which take place among the bulls themselves. Dead males are often found, which can only be accounted for on this supposition. The musk bulls are attached to mountainous and barren tracts, preferring the rocky steep to the wooded and fertile valley. They climb precipices with great agility and certainty, from the construction of their feet. When grass is in season it is their principal food, but in winter they browse on willows, the tops of pine shoots, and different kinds of mosses.

The female usually produces one calf, about the end of May. The flesh of the female has a very pleasant taste, but that of the male, if old, has a very high musky flavour; and hence it is disagreeable to the taste; the fat is clear, white, and of an azure tint.

Musk bulls were met with by Captain Parry as far north as Melville Island. There is a fine specimen, presented by that gentleman, in the Edinburgh College Museum.

## Genus BOS.—Linnæus.

*Generic character.* The incisory teeth are $\frac{0}{8}$; without canine teeth; the grinders are $\frac{6\ 6}{6\ 6}$; total, 32. The head is large; the forehead straight, and the muzzle square, broad, naked, and moist; the eyes are large; the ears long and funnel shaped; there is a dewlap under the neck; the tail is long, and tufted at its point; the horns are simple, generally lateral, and elevated at the tip. The female has four teats.



THE DOMESTIC BULL.

Bos Taurus.—Pliny.

This animal is too well known to require any particular description. The wild cattle existed at one time in the woody ranges of England and Scotland. They are now, however, completely extinct, except only in some parks; namely, at Chillingham Castle, Northumberland; at Wollaton, Nottinghamshire; at Gisburne, in Craven, Yorkshire; at Leine-hall, Cheshire; and at Charby, Staffordshire.

The wild cattle are invariably white; the muzzles are black; the whole inside of the ear, and about one-third of the outside, from the tip downwards, is red; the horns

are white, with black tips. A few of those at Chillingham, had black ears; but these are now extinct.

At the first appearance of a person approaching, these animals are very wild, and take to flight; and after running a little way, they turn round, tossing their heads in a menacing manner, look wildly at the object of their surprise, and upon the slightest motion being made, they wheel about, and precipitately retreat; but they again rally, approach nearer, and repeat this frequently, shortening their distance each time, till, at length, it becomes unsafe to remain within their reach.

The mode of killing these wild cattle was, perhaps, the only modern remains of the grandeur of ancient hunting. On notice being given that a wild bull would be killed on a certain day, the inhabitants of the neighbourhood came mounted, and armed with guns, sometimes to the amount of a hundred horse, and four or five hundred foot, who stood upon walls, or got into trees, while the horsemen rode off a bull from the rest of the herd, until he stood at bay, when a marksman dismounted and shot. At some of these hunting parties, twenty or thirty shots have been fired before the animal was subdued. On such occasions the bleeding victim grew desperately furious, from the smarting of his wounds, and the shouts of savage joy which were echoing from every side. But from the number of accidents which happened, this dangerous sport has never been practised of late years, the park-keeper alone killing them with a rifle-gun generally at one shot.

When these wild cows calve, they hide their young ones, for a week or ten days, in some sequestered situation, and go and suckle them two or three times a-day. If any person come near the calves, they clap their heads close to the ground, and lie like a hare in form, to hide

themselves: this is a proof of their native wildness. Dr. Fuller, author of the *History of Berwick*, found a hidden calf, two days old, very lean and weak. On stroking its head, it got up, pawed two or three times like an old bull, bellowed very loud, went back a few steps, and bolted at his legs with all its force; it then began to paw again, bellowed, stepped back, and bolted as before; but knowing its intention, he stepped aside, and it missed him, fell, and was so weak that it could not rise, though it made several efforts. It, however, had done enough; the whole herd was alarmed, and coming to its rescue, obliged him to retire.

It is now impossible to tell whether these wild cattle are sprung from progenitors which have always been wild; and the mist of antiquity has hidden the source of the domestic stock from whence all the European breeds have sprung.

The cow goes nine months with young, and seldom produces more than one at a time. There have been instances, however, where they have brought forth five. In June, 1830, a cow belonging to Mr Littlewood, of West Broughton, produced three calves, which all lived and did well. A kylo, or little Highland cow, in the possession of Mr. Wolfe of Chester-le-street, produced ten calves at six calvings, namely, four times two each, and two single births.

Mankind derives great benefit from these animals, in supplying them with food, their flesh being the most nutritious and palatable which is known to us, and of which we may eat for a longer time, without satiety, than any other. The milk of the cow is a rich and wholesome diet, and when coagulated and converted into cheese, is not only nourishing, but in some instances a luxury. Besides these benefits, the present generation owes

much of its beauty to the invaluable discovery of vaccination.

There is scarcely a part of this animal which is not useful to mankind. Boxes, combs, knife-handles and drinking vessels, are made of the horns. They are also softened with boiling water and become so pliable as to be formed into transparent plates for lanterns; an invention ascribed to King Alfred. Glue is made of the cartilages, gristles, and the finer pieces of cuttings and parings of the hides, which are boiled in water till they become gelatinous, and then dried, and this forms an excellent glue. The bone is a cheap substitute for ivory. The thinnest calf skins are manufactured into vellum. The thicker hides, form excellent leather; and those of the full grown animals are converted into bend leather, for shoe soles. The blood is used as the basis of Prussian blue. The hair is valuable in various manufactures; and candles are made of the suet, fat, and tallow.

### *Hungarian Cows.*

Dr. Bright, in his *Travels in Lower Hungary*, mentions the curious behaviour of cows in that country, after being deprived of their calves:—"In the course of our drive," says he, "we met two cows wandering wildly in the forest, looking in every direction, snuffing the air, and lowing continually. They had just lost their calves. The keeper gave me a singular account of their conduct under such circumstances. The mother no sooner perceives her loss than she appears distressed; the first day she seems to search for her calf with hope, the second, she becomes disappointed and frantic, and the third, still pursues her solitary search, after which she returns to the herd, gradually becomes tranquil and composed, and associates again with her former companions."

### *Cow and Pig.*

Thomas Graham, of Scattergate, Appleby, had a cow and a pig so strongly attached to each other, that they were never separated. The former would not suffer herself to be driven to any place without the company of her little attendant, to whose safety she always looked with watchful attention. On her way to grass, she had always to pass through the town, when the pig was frequently assailed by dogs, who seldom failed to pay dear for their temerity, as the cow often severely gored them. After a conflict of this kind, the cow and pig never failed to congratulate each other on their victory, by stopping and rubbing their noses together in a most loving manner; and when they again began their march, the pig generally took its post close by the side of its protector, wagging its short tail, as a proof of its contentment.

### *Pointing Extraordinary.*

A gentleman was shooting in the moors a short time ago, when his dog came to a dead point. He went up prepared, expecting a famous rise; but after walking round and round the dog, not a single grouse made its appearance, till the dog stood and drew gently on towards the mouth of a deep and dark looking hole, where he remained fixed. The gentleman conceiving it must be the retreat of a fox, badger, or other wild beast, prudently retired to a rising ground, and directed his attendant to fire one barrel into the hole, reserving the other in case the animal should bolt. The shot was fired, but produced neither howl, groan, nor ejectment. A consultation was held, and it was determined to procure a reinforcement of strength, with the means of throwing light on this strange affair. A party of sap-

pers and miners, (then employed in the more humble occupation of dike building,) soon admitted a sufficient light to discover the head, not of a fox or badger, but of a harmless bullock, buried to the very horns, at least ten feet from the surface of the earth. Active humanity was now employed to rescue the poor animal from his perilous and extraordinary situation, when he was found unable to stand or move. A cart was procured, and every kind attention paid to the poor sufferer, who, in a short time, perfectly recovered. It was soon ascertained to whom the bullock belonged. He had been missed on the 4th of October, and found on the evening of the 17th, consequently, must have lived thirteen days in this dreary abode, without food of any kind.

### *Prognosticators of Weather.*

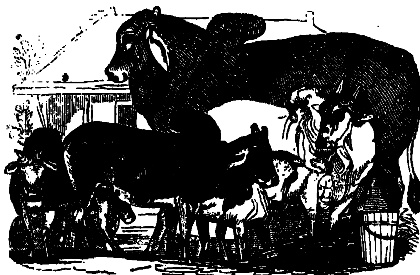
The cattle of South America, especially in the neighbourhood of Buenos Ayres and Chili, know perfectly when rain is to fall some time before there are any visible signs of it in the atmosphere. A traveller noticed this particularly in passing from Buenos Ayres to Mendoza. The weather had been long dry, and almost every spring was dried up, and negroes had been sent in all directions to endeavour to discover fountains. A short while after, the cattle began to stretch their necks towards the west, holding their noses high in the air, and snuffing in a most singular manner. Not a cloud was to be seen, nor was the slightest breath of air to be felt. But, in a few minutes, the cattle, as if seized with sudden madness, began to scamper about, and then, in a short time, congregated into a dense phalanx, snuffing the air, with wild and furious looks: they squeezed closer and closer together; and, before this gentleman could conjecture what was to be the issue of this singular

manœuvre, a black cloud quickly overtopped the neighbouring mountains, and there came on a most tremendous storm of thunder and lightning; the rain fell in torrents, and the cattle were soon enabled to quench their thirst on the spot where they stood.

### *Motherly Care.*

The *Strathmore Journal* for June 1829, mentions a singular circumstance of a cow:—Two lambs, who had lost their mother, were put into the same field with a cow, to graze. The little animals formed an acquaintance with the cow, and immediately began to suck her udder, who, far from manifesting opposition, quietly suffered them to do so, and became so fond of her little adopted "lammies," that she would not allow any person to approach the place where they were. It was amusing to see them following the cow every where, and to hear her lowing for them when they lagged behind. Had the animal lost her offspring, it would not have been so much matter of surprise, but she had not had a calf for some time before.

A cow, the property of Mr. Morris, butcher, of Lewes, in July, 1827, formed so strong an attachment to a lamb, which had been turned into the same field to graze, that she regularly suckled it, betraying the same solicitude for its safety, as she was wont to do for her own progeny.



THE ZEBU.

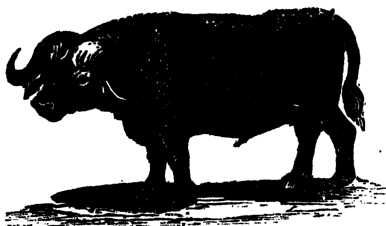
Bos Taurus, Variety Indicus.

This animal differs but little from the other domestic cattle of India, and is evidently descended from the same original stock, altered by the influence of cultivation, climate and food.

The zebu is about the size of our domestic cow; the forehead is flat, or sligthly depressed; nearly square in its outline, and its height equal to its breadth; and bounded above by a prominent line, forming an angular protuberance, passing directly across the skull between the bases of the horns, which sometimes stand out, or pointing backwards, with their tips slightly inflected. It has a large fatty hump, of about fifty pounds weight, on the top of the shoulders; and, in other respects, is like the common cow. Its usual colour is cream yellow, or milk white.

This creature is of a gentle and patient disposition, and is used as a beast of burden, and as an article of food in India. In some places it is used as a horse, being either saddled and ridden, or harnessed in a carriage, and performs tolerably long journeys with considerable despatch, at the rate of from twenty to thirty miles a-day. The

flesh of this species is of an inferior quality; but the hump is considered very delicate.



THE BUFFALO.

Bos Bubulus.—Linnæus.

The buffalo has a strong resemblance to the common ox. His horns are compressed, and directed laterally, with a ridge in front, reclining towards the neck, and the tips turned up. The forehead is convex; the ears are large and hanging; the hair is nearly black, and of a coarse texture; and the tail tufted at the end, like that of the bull.

This animal is a native of various countries of the East and America. They are common in Western Hindostan, and also in Africa. The latter breed differs from those of India, particularly in the horns, which are very thick and rugged at the base. The horns are of great size, frequently measuring three feet in length. The body and limbs are thick and muscular. The head hangs down, which gives it a gloomy and fierce aspect. The buffalo is now very common in many parts of Germany and Hungary, where it is used as a beast of draught.

These animals are naturally very fierce; and it is dangerous to approach the situations where they feed, in their native wilds; for, differently from most other rumi-

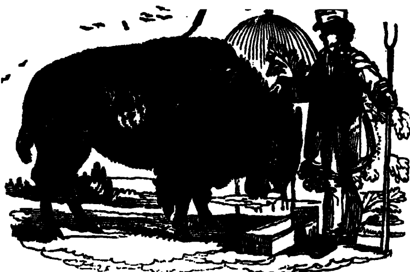
eating animals, he will fearlessly attack a man; and, in this case, there is no chance of escape. When the buffalo encounters a person, he runs against him with his horns, and having thrown him down, tramples him with his hoofs and knees, and tears him to pieces with his horns.

In Africa, the buffalo is hunted by the Caffres, at which terrible scenes often take place.

## *Buffalo Hunt.*

On the morning of the 2d of March, 1813, a herd, consisting of seven wild buffaloes, with one calf, was suddenly discovered at Keshennagar, in Hindostan. Four gentlemen on horseback commenced a pursuit of these animals with much ardour. After having followed them three miles, the young one separated from the herd, and joined some tame cattle belonging to a neighbouring village. It was killed by the party, who afterwards continued the pursuit of the old ones, when they were overtaken in a high grass jungle four miles farther off. They were quickly driven from this place, and closely followed for more than six miles over a plain: at length the party succeeded in separating one buffalo from the herd. Here the encounter began. After receiving several wounds, he still continued his flight; he suddenly halted, and kept his pursuers at bay; after a short interval he again fled, and was pursued and wounded as before, carrying the spears sticking in his back and sides for several hundred yards. Lieutenant White, of the 15th Native Infantry, rode up very close to him, threw his spear, and wounded the animal in the loins. His horse being much exhausted, was unable to wheel round before the buffalo turned about and charged with such vigour, that both horse and rider were overthrown, and lay many

yards distant. Fortunately, the lieutenant received no material injury; and when the animal approached he had the presence of mind to lie flat on his back. The beast approached, but stood at his feet, without offering any violence. The other sportsmen called repeatedly to their companion to arise and escape. For some time, however, he disregarded the advice, fearful of the consequences; at length, in compliance with their entreaty, he arose; the buffalo instantly rushed forward, but Mr. White escaped by throwing himself down; while the enraged beast, missing his aim, fell on the ground, his horns grazing Mr. White's back, as he passed over him. After this lucky escape, he seized the favourable opportunity, and regained his horse. The buffalo then took refuge in a tank; and when his former opponent joined his companions, who were standing upon the bank, the animal issued forth, and selecting Lieutenant White for the object of its vengeance, pursued him to a considerable distance. The animal was now rendered quite furious, and attacked every thing within his reach, such as cows and dogs. Unfortunately, an old woman returning from market passed, and became the victim of his rage; she was taken up without any appearance of life, having her arms broken, and many wounds. The cavalry being, from fatigue, *hors de combat*, could not renew the attack, and the buffaloes, whose system was retreat, having gained a victory, now continued their course without molestation.



THE AMERICAN BISON.

Bos Americanus.—Gmelin.

This animal has an elevated forehead, of much greater breadth than length, and bounded above by an arched line passing across the head, about two inches behind the roots of the horns. The head is extremely large in proportion to the size of the body, supported by strong and powerful muscles. The eyes are small, black, and piercing; the horns are short, black, and very thick at their base, placed widely apart, directed outwards, backwards, and upwards, slightly curved towards their tips. Its withers are elevated in the form of a large lump, extending nearly to the middle of the back, to which point it gradually slopes; thus giving the fore parts a very strong appearance. This protuberance does not consist merely of flesh and fat, but is supported by an actual elongation of the spinous processes of the vertebræ beneath. This lump, as well as the head, neck, throat, and shoulders, are covered with a long shaggy coat of black woolly hair. All the other parts of the body are covered by short, thick set, curling hair, which becomes woolly in winter, and falls off in summer; the general colour of the hair is of a deep blackish brown, but the hinder parts are nearly black. The legs are short, firm,

and muscular; the tail is very short, measuring only a foot in length, and is nearly naked, except at the tip, which is furnished with a tuft of long black hairs. The bison differs from the comon ox, by having two additional ribs; the ox is well known to have but thirteen. The female is smaller than the male, more slender in her make, and her mane is much shorter.

These animals inhabit all the wild tracts of North America, from Hudson's Bay to Louisiana, extending southwards to the frontiers of Mexico, increasing in size as they diverge from the north. In northern situations they are only to be met with in small herds, while in the immense and fertile savannahs of the south, the herds extend for miles. Captains Lewis and Clark say, "Such was the multitude of these animals, that, although the river, including an island over which they passed, was a mile in breadth, the herd stretched, as thick as they could swim, completely from one side to the other." And in another passage, "If it be not impossible to calculate the moving multitude which darkened the whole plains, we are convinced that twenty thousand would be no exaggerated number."

Bisons generally prefer the open plains, and do not resort to woods, except when attacked: they seldom attempt to defend themselves, but almost invariably take to flight. They are extremely fleet, and their sense of smell is so acute, that they discover an enemy at a great distance, so that it is difficult to get near them. They are frequently hunted by the natives, who live principally on their flesh. When the hunters kill the old dams, they pay no attention to the calf, as it is sure to remain by its dead mother. Instances have been known of a mother entering the town of Cincinnati, followed by its calves. Many of them fall victims to wolves and

grizzly bears. Their beef is said to be of an excellent quality, and of a very superior flavour.



## Genus PHYSETER.—Linnæus.

*Generic character.*—The lower teeth, 18 to 25 on each side of the jaw; the upper jaw is wide, elevated, without corneous laminæ, or teeth, or with short ones concealed in the gums. The lower jaw is elongated, narrow, and corresponding to a furrow in the upper; thick and conic teeth entering corresponding cavities in the upper jaw; spiracle openings united near the end of the muzzle; some species have a dorsal fin, in others a simple eminence; with cartilaginous cavities in the head, filled with oily matter.

### Subgenus BALÆNA.—Lacepede.

The body is thick; the tail short; without a hunch on the back; the upper jaw is furnished with seven hundred transverse laminæ.



### THE COMMON WHALE.

Balæna Mysticetus.—Linnæus.

This is the largest of all animals which have yet been discovered, measuring from eighty to one hundred feet when full grown. This enormous animal is possessed of immense power; a blow from its tail will upset a large boat; it is with this organ alone that it makes progress in the water, the fins being only used for turning.

The head of the whale is extremely large, composing



nearly a third of the animal; it is flat above, and furnished with two spiracles, through which it can eject water to the height of from thirty-five to forty feet in the air; the mouth is very large, stretching back nearly in a line with the eyes; its tongue is very soft, consisting of a fatty matter, and adheres to the lower jaw; and, what is remarkable, the gullet does not exceed four inches in width; the eyes are not larger than those of a common ox, and are placed distant from each other on the sides of the head, so that the animal can see all around him; the skin is about an inch thick; under the skin is situated the blubber, which is from eight inches to a foot in thickness; from this substance oil is made; the tail is very broad, semilunar, and placed transversely.

The whale is a mammiferous animal, and the female suckles her young like a quadruped. Its internal conformation is also similar to quadrupeds, having lungs to breathe like them, and, therefore, unable to live long under water, without coming to the surface to respire; consequently, it seems the link in the great chain of nature

which connects quadrupeds with fishes. It is a shy and timid animal, which is well for mankind; for its vast strength would render it a formidable and dangerous enemy if it were inclined to exert its powers.

The principal food of the whale consists of medusæ, crabs, and small fish.

The affection and fidelity of the male and female is very great. Anderson, in his *History of Greenland*, informs us, that some fishermen having harpooned one of two whales, a male and female, that were in company together, the wounded animal made a long and terrible resistance; it upset a boat containing three men, with a single blow of its tail, by which all went to the bottom. The other still attended its companion, and lent it every assistance, till, at last, the one that was struck sank under the number of its wounds, while its faithful associate, disdaining to survive the loss, with great bellowing, stretched itself upon the dead animal, and shared its fate.

The natural affection of the whale, which, in other respects, is apparently a stupid animal, is striking and interesting. The cub, being insensible to danger, is easily harpooned, when the tender affection of the mother is manifested, so as not unfrequently to bring it within reach of the whalers. Hence, though a cub is of little value, yet it is sometimes struck, as a snare for its mother. In this case, she joins it at the surface of the water whenever it has occasion to rise for respiration; encourages it to swim away; assists its flight, by taking it under her fin, and seldom deserts it while life remains. On such occasions, she is dangerous to approach; but she, at the same time, affords the fishers frequent opportunities for attack. She loses all regard for her own safety in anxiety for the preservation of her young; and dashes through the midst of her enemies, despising the danger that threat-

ens her, and remains by her offspring after she has received various wounds. In the year 1814, a harpooner struck a cub, in hopes of attracting the mother; when, the young one was wounded, the whale rose to the surface, seized the cub, and dragged a hundred fathoms of line from the boat with great velocity. She again rose to the surface, and dashed furiously about, seemingly deeply concerned for the fate of her young. Although closely pursued, she did not again descend, and, regardless of the surrounding danger, continued in this state till she had received six harpoons, and was at length killed.

The time of gestation in the female is supposed to be nine or ten months, and she produces but one at a time.

It is recorded, that on the shores of the Frith of Forth, in the year 1652, a whale, eighty feet long, was cast ashore; and one of seventy feet was stranded at Peterhead, Aberdeenshire. The native abode of this mighty monster of the deep is the seas about the seventeenth degree of north latitude, near Spitzbergen and Greenland. They are likewise to be met with in the seas of high southern latitudes.

Nature's strange work, vast whales of differing form,
Toss up the troubled floods, and are themselves a storm:
Uncouth the sight, when they, in dreadful play,
Discharge their nostrils, and refund a sea;
Or, angry, lash the foam with hideous sound,
And scatter all the watery dust around.
Fearless the fierce destructive monsters roll,
Ingulf the fish, and drive the flying shoal.
In deepest seas these living isles appear,
And deepest seas can scarce their pressure bear:
Their bulk would more than fill the shelvy strait,
And fathom'd depths would yield beneath their weight.